

Appendix A

Wind File Library Station Information

App. A

Wind File Library Station Information

Station Name TULSA/INT'L ARPT

Station ID 13968

State OK

Longitude 95.9

Latitude 36.2

Time Zone 6

Period of Record 1988,1989,1990,1991,1992

Average Temperature for Period 16.27 (Celsius)

File Name 13968.WND

Comments - None

Version 2.00

Clean Air Act Assessment Package - 1988

W E A T H E R D A T A

Non-Radon Individual Assessment
Oct 3, 2002 10:27 am

Facility: Fansteel
Address:
City: Muskogee
State: OK Zip:

Source Category:
Source Type: Area
Emission Year: 2002

Comments: Fansteel Tulsa Met

Dataset Name: Fan Tulsa Met
Dataset Date: Oct 3, 2002 10:26 am
Wind File: C:\CAP88PC2\WNDFILES\13968.WND

HARMONIC AVERAGE WIND SPEEDS (WIND TOWARDS)

Pasquill Stability Class

Dir	A	B	C	D	E	F	G	Wind Freq
N	1.330	1.980	3.970	5.660	3.910	1.490	0.000	0.271
NNW	1.280	1.890	3.720	4.920	3.760	1.510	0.000	0.121
NW	1.270	1.660	3.020	3.940	3.490	1.410	0.000	0.058
WNW	1.310	1.510	2.630	2.990	2.950	1.260	0.000	0.029
W	1.170	1.530	2.840	2.590	2.920	1.310	0.000	0.037
WSW	1.080	1.560	3.140	2.910	3.010	1.380	0.000	0.022
SW	1.300	1.810	3.100	3.510	3.110	1.350	0.000	0.028
SSW	1.390	1.680	3.450	4.500	3.330	1.380	0.000	0.046
S	1.390	1.560	3.240	4.160	3.250	1.370	0.000	0.113
SSE	1.120	1.750	3.120	3.770	3.220	1.370	0.000	0.063
SE	1.150	1.460	2.870	3.440	3.360	1.290	0.000	0.047
ESE	1.370	1.520	3.180	3.400	3.350	1.360	0.000	0.029
E	1.140	1.580	2.940	3.400	3.360	1.340	0.000	0.032
ENE	1.380	1.680	3.530	3.530	3.280	1.320	0.000	0.019
NE	1.260	1.910	3.640	4.580	3.510	1.430	0.000	0.027
NNE	1.360	1.930	4.220	5.600	3.830	1.450	0.000	0.059

ARITHMETIC AVERAGE WIND SPEEDS (WIND TOWARDS)

Pasquill Stability Class

Dir	A	B	C	D	E	F	G
N	1.860	2.910	5.030	6.680	4.070	2.010	0.000
NNW	1.800	2.820	4.560	5.980	3.960	2.030	0.000
NW	1.790	2.500	3.820	5.140	3.720	1.940	0.000
WNW	1.830	2.290	3.630	4.100	3.140	1.770	0.000
W	1.650	2.350	3.720	3.670	3.090	1.830	0.000
WSW	1.510	2.350	3.870	3.930	3.210	1.900	0.000
SW	1.820	2.530	3.940	4.740	3.330	1.870	0.000
SSW	1.920	2.520	4.210	5.740	3.570	1.900	0.000
S	1.910	2.440	4.050	5.610	3.480	1.900	0.000
SSE	1.570	2.620	4.010	5.150	3.450	1.890	0.000
SE	1.610	2.320	3.740	4.810	3.600	1.810	0.000
ESE	1.890	2.340	4.120	4.990	3.590	1.880	0.000
E	1.610	2.370	3.820	5.130	3.600	1.870	0.000
ENE	1.910	2.470	4.280	5.320	3.510	1.840	0.000
NE	1.770	2.900	4.600	5.910	3.740	1.950	0.000
NNE	1.880	2.880	5.070	6.860	4.010	1.980	0.000

FREQUENCIES OF STABILITY CLASSES (WIND TOWARDS)

Pasquill Stability Class

Dir	A	B	C	D	E	F	G
N	0.0034	0.0308	0.0965	0.5667	0.1791	0.1235	0.0000
NNW	0.0065	0.0302	0.0904	0.5421	0.1918	0.1390	0.0000
NW	0.0123	0.0558	0.0966	0.4944	0.1959	0.1450	0.0000
WNW	0.0190	0.0659	0.1321	0.3916	0.1675	0.2238	0.0000
W	0.0219	0.0972	0.1148	0.3824	0.1348	0.2489	0.0000
WSW	0.0158	0.1118	0.1267	0.4212	0.1393	0.1850	0.0000
SW	0.0173	0.1004	0.1329	0.5020	0.1271	0.1203	0.0000
SSW	0.0048	0.0513	0.1150	0.6386	0.1003	0.0900	0.0000
S	0.0056	0.0409	0.0863	0.6150	0.1153	0.1369	0.0000
SSE	0.0082	0.0378	0.1015	0.5012	0.1146	0.2366	0.0000
SE	0.0065	0.0491	0.0977	0.4251	0.1183	0.3034	0.0000
ESE	0.0154	0.0504	0.1237	0.3823	0.1175	0.3107	0.0000
E	0.0127	0.0574	0.1233	0.3707	0.1242	0.3117	0.0000
ENE	0.0099	0.0893	0.1755	0.3255	0.1002	0.2996	0.0000
NE	0.0106	0.0972	0.2296	0.3913	0.0983	0.1731	0.0000
NNE	0.0058	0.0668	0.1866	0.5279	0.1177	0.0952	0.0000
TOTAL	0.0080	0.0492	0.1113	0.5172	0.1487	0.1656	0.0000

ADDITIONAL WEATHER INFORMATION

Average Air Temperature: 10.0 degrees C
283.16 K
Precipitation: 100.0 cm/y
Lid Height: 1000 meters
Surface Roughness Length: 0.010 meters
Height Of Wind Measurements: 10.0 meters
Average Wind Speed: 4.517 m/s

Vertical Temperature Gradients:

STABILITY E 0.073 k/m
STABILITY F 0.109 k/m
STABILITY G 0.146 k/m

Appendix B
Extreme Weather Events

Query Results

468 event(s) were reported in Muskogee County, Oklahoma between 01/01/1950 and 06/30/2002.

Click on Location or County to display Details.

Mag: Magnitude
Dth: Deaths
Inj: Injuries
PrD: Property Damage
CrD: Crop Damage

Oklahoma

Location or County	Date	Time	Type	Mag	Dth	Inj	PrD	CrD
1 MUSKOGEE	06/07/1951	2255	Tornado	F2	0	1	0K	0
2 MUSKOGEE	11/19/1953	1100	Tornado	F1	0	0	3K	0
3 MUSKOGEE	03/24/1954	2125	Tornado	F2	0	0	250K	0
4 MUSKOGEE	05/25/1954	1730	Tornado	F2	0	0	3K	0
5 MUSKOGEE	04/02/1956	2300	Tstm Wind	0 kts.	0	0	0	0
6 MUSKOGEE	11/20/1956	1035	Tornado	F2	0	0	3K	0
7 MUSKOGEE	01/21/1957	1855	Tornado	F1	0	0	25K	0
8 MUSKOGEE	06/14/1957	1800	Tstm Wind	0 kts.	0	0	0	0
9 MUSKOGEE	06/15/1958	1430	Tstm Wind	63 kts.	0	0	0	0
10 MUSKOGEE	06/15/1958	1430	Tstm Wind	63 kts.	0	0	0	0
11 MUSKOGEE	03/10/1959	1800	Hail	1.75 in.	0	0	0	0

12 MUSKOGEE	03/25/1959	2130	Tornado	F2	0	0	0K	0
13 MUSKOGEE	03/25/1959	2130	Tstm Wind	0 kts.	0	0	0	0
14 MUSKOGEE	04/18/1959	1700	Hail	2.00 in.	0	0	0	0
15 MUSKOGEE	04/19/1959	1700	Hail	1.00 in.	0	0	0	0
16 MUSKOGEE	06/11/1959	1900	Tstm Wind	63 kts.	0	0	0	0
17 MUSKOGEE	04/16/1960	2210	Tstm Wind	0 kts.	0	0	0	0
18 MUSKOGEE	05/05/1960	1820	Tornado	F2	0	0	25K	0
19 MUSKOGEE	05/05/1960	1830	Hail	1.75 in.	0	0	0	0
20 MUSKOGEE	05/05/1960	1830	Hail	2.00 in.	0	0	0	0
21 MUSKOGEE	05/19/1960	1920	Tornado	F	0	0	3K	0
22 MUSKOGEE	05/27/1960	1645	Hail	1.50 in.	0	0	0	0
23 MUSKOGEE	07/27/1960	2315	Tstm Wind	80 kts.	0	0	0	0
24 MUSKOGEE	05/21/1961	1345	Hail	0.75 in.	0	0	0	0
25 MUSKOGEE	05/20/1962	0100	Tstm Wind	0 kts.	0	0	0	0
26 MUSKOGEE	08/08/1962	1700	Tornado	F	0	0	0K	0
27 MUSKOGEE	05/10/1963	2230	Hail	1.00 in.	0	0	0	0

28 MUSKOGEE	05/10/1963	2245	Hail	0.00 in.	0	0	0	0
29 MUSKOGEE	07/26/1964	1530	Hail	1.00 in.	0	0	0	0
30 MUSKOGEE	07/26/1964	1530	Tstm Wind	0 kts.	0	0	0	0
31 MUSKOGEE	04/08/1965	0155	Tornado	F2	0	0	25K	0
32 MUSKOGEE	04/11/1965	0330	Tornado	F2	0	0	3K	0
33 MUSKOGEE	07/06/1965	2000	Tstm Wind	54 kts.	0	0	0	0
34 MUSKOGEE	04/27/1966	1830	Hail	1.75 in.	0	0	0	0
35 MUSKOGEE	06/07/1966	1255	Tstm Wind	0 kts.	0	0	0	0
36 MUSKOGEE	06/07/1966	1255	Tstm Wind	90 kts.	0	0	0	0
37 MUSKOGEE	04/09/1967	2025	Tornado	F0	0	0	0K	0
38 MUSKOGEE	05/13/1968	1515	Hail	0.75 in.	0	0	0	0
39 MUSKOGEE	10/10/1969	1920	Tstm Wind	0 kts.	0	0	0	0
40 MUSKOGEE	10/10/1969	1925	Tstm Wind	0 kts.	0	0	0	0
41 MUSKOGEE	11/11/1969	0755	Hail	0.75 in.	0	0	0	0
42 MUSKOGEE	11/11/1969	0800	Hail	1.75 in.	0	0	0	0
43 MUSKOGEE	04/18/1970	1305	Tstm Wind	0	0	0	0	0

				kts.				
44 MUSKOGEE	09/22/1970	1200	Tstm Wind	0 kts.	0	0	0	0
45 MUSKOGEE	05/05/1971	1743	Tornado	F3	0	0	250K	0
46 MUSKOGEE	05/06/1971	1726	Hail	2.75 in.	0	0	0	0
47 MUSKOGEE	05/10/1971	0945	Hail	1.50 in.	0	0	0	0
48 MUSKOGEE	05/26/1971	1955	Tstm Wind	0 kts.	0	0	0	0
49 MUSKOGEE	05/26/1973	1600	Tornado	F4	5	25	250K	0
50 MUSKOGEE	06/02/1973	2000	Tstm Wind	0 kts.	0	0	0	0
51 MUSKOGEE	06/18/1973	2010	Tstm Wind	0 kts.	0	0	0	0
52 MUSKOGEE	06/18/1973	2100	Tstm Wind	61 kts.	0	0	0	0
53 MUSKOGEE	08/10/1973	1545	Tstm Wind	0 kts.	0	0	0	0
54 MUSKOGEE	11/23/1973	1850	Hail	2.50 in.	0	0	0	0
55 MUSKOGEE	11/23/1973	1910	Hail	2.50 in.	0	0	0	0
56 MUSKOGEE	01/09/1975	2315	Tstm Wind	0 kts.	0	0	0	0
57 MUSKOGEE	05/06/1975	1554	Hail	1.00 in.	0	0	0	0
58 MUSKOGEE	05/06/1975	1600	Hail	1.75	0	0	0	0

				in.				
59 MUSKOGEE	06/16/1975	2330	Tstm Wind	0 kts.	0	0	0	0
60 MUSKOGEE	07/23/1975	1730	Tstm Wind	0 kts.	0	0	0	0
61 MUSKOGEE	06/29/1976	1740	Hail	1.75 in.	0	0	0	0
62 MUSKOGEE	05/19/1977	2130	Tornado	F1	0	2	25K	0
63 MUSKOGEE	07/09/1977	1700	Tstm Wind	0 kts.	0	0	0	0
64 MUSKOGEE	07/25/1977	1630	Tornado	F2	0	0	25K	0
65 MUSKOGEE	07/30/1977	1640	Tstm Wind	0 kts.	0	0	0	0
66 MUSKOGEE	04/10/1979	2050	Hail	0.75 in.	0	0	0	0
67 MUSKOGEE	04/11/1979	0400	Tornado	F	0	0	0K	0
68 MUSKOGEE	06/21/1979	1700	Hail	2.75 in.	0	0	0	0
69 MUSKOGEE	06/21/1979	1740	Tstm Wind	0 kts.	0	0	0	0
70 MUSKOGEE	06/23/1979	1545	Tstm Wind	0 kts.	0	0	0	0
71 MUSKOGEE	05/30/1980	1905	Tornado	F0	0	0	0K	0
72 MUSKOGEE	05/17/1981	2200	Tornado	F2	0	0	0K	0
73 MUSKOGEE	05/28/1981	1545	Tornado	F1	0	0	0K	0
74 MUSKOGEE	04/02/1982	1430	Tstm Wind	0 kts.	0	0	0	0

75 MUSKOGEE	05/14/1982	1815	Hail	1.75 in.	0	0	0	0
76 MUSKOGEE	06/03/1982	1343	Hail	0.75 in.	0	0	0	0
77 MUSKOGEE	06/09/1982	1600	Hail	1.75 in.	0	0	0	0
78 MUSKOGEE	06/09/1982	1608	Hail	1.75 in.	0	0	0	0
79 MUSKOGEE	06/11/1982	0500	Hail	1.00 in.	0	0	0	0
80 MUSKOGEE	06/11/1982	0600	Hail	1.75 in.	0	0	0	0
81 MUSKOGEE	12/24/1982	0300	Tstm Wind	0 kts.	0	0	0	0
82 MUSKOGEE	06/05/1983	1500	Tstm Wind	65 kts.	0	0	0	0
83 MUSKOGEE	06/05/1983	1530	Tstm Wind	52 kts.	0	0	0	0
84 MUSKOGEE	06/05/1983	1545	Tstm Wind	65 kts.	0	0	0	0
85 MUSKOGEE	07/30/1983	1600	Tstm Wind	0 kts.	0	0	0	0
86 MUSKOGEE	07/30/1983	1632	Tornado	F0	0	0	OK	0
87 MUSKOGEE	03/15/1984	1630	Tornado	F0	0	0	OK	0
88 MUSKOGEE	04/27/1984	0015	Hail	1.75 in.	0	0	0	0
89 MUSKOGEE	04/29/1984	0808	Tornado	F0	0	0	OK	0
90 MUSKOGEE	05/07/1984	0420	Tstm Wind	0	0	0	0	0

				kts.				
91 MUSKOGEE	07/07/1984	1330	Tstm Wind	61 kts.	0	1	0	0
92 MUSKOGEE	09/08/1984	2145	Tstm Wind	0 kts.	0	0	0	0
93 MUSKOGEE	03/26/1985	2300	Tstm Wind	0 kts.	0	2	0	0
94 MUSKOGEE	04/05/1985	0015	Tstm Wind	69 kts.	0	0	0	0
95 MUSKOGEE	04/30/1985	0812	Tstm Wind	0 kts.	0	0	0	0
96 MUSKOGEE	09/10/1985	1845	Tstm Wind	52 kts.	0	4	0	0
97 MUSKOGEE	03/09/1986	2350	Tstm Wind	0 kts.	0	0	0	0
98 MUSKOGEE	03/11/1986	1315	Tstm Wind	0 kts.	0	0	0	0
99 MUSKOGEE	05/14/1986	1830	Tstm Wind	0 kts.	0	0	0	0
100 MUSKOGEE	05/14/1986	1841	Tstm Wind	0 kts.	0	0	0	0
101 MUSKOGEE	05/14/1986	1845	Tstm Wind	0 kts.	0	0	0	0
102 MUSKOGEE	06/15/1987	1320	Hail	0.75 in.	0	0	0	0
103 MUSKOGEE	06/23/1987	0600	Tstm Wind	52 kts.	0	0	0	0
104 MUSKOGEE	08/13/1987	1800	Tstm Wind	61	0	0	0	0

				kts.				
105 MUSKOGEE	03/24/1988	1700	Hail	1.75 in.	0	0	0	0
106 MUSKOGEE	04/05/1988	1445	Hail	1.75 in.	0	0	0	0
107 MUSKOGEE	04/05/1988	1450	Tstm Wind	0 kts.	0	0	0	0
108 MUSKOGEE	06/28/1988	2040	Tstm Wind	0 kts.	0	0	0	0
109 MUSKOGEE	11/09/1988	1730	Tstm Wind	0 kts.	0	0	0	0
110 MUSKOGEE	11/09/1988	1825	Hail	1.50 in.	0	0	0	0
111 MUSKOGEE	03/30/1989	1045	Hail	0.75 in.	0	0	0	0
112 MUSKOGEE	05/04/1989	0310	Hail	1.00 in.	0	0	0	0
113 MUSKOGEE	05/09/1989	0115	Hail	1.00 in.	0	0	0	0
114 MUSKOGEE	05/09/1989	0200	Hail	1.75 in.	0	0	0	0
115 MUSKOGEE	05/18/1989	1315	Hail	1.00 in.	0	0	0	0
116 MUSKOGEE	05/18/1989	1450	Hail	0.75 in.	0	0	0	0
117 MUSKOGEE	05/19/1989	2335	Hail	1.00 in.	0	0	0	0
118 MUSKOGEE	05/20/1989	0040	Hail	0.75	0	0	0	0

				in.				
119 MUSKOGEE	05/20/1989	0100	Hail	0.75 in.	0	0	0	0
120 MUSKOGEE	05/20/1989	0115	Tornado	F0	0	0	OK	0
121 MUSKOGEE	05/20/1989	0130	Hail	0.75 in.	0	0	0	0
122 MUSKOGEE	05/20/1989	0130	Hail	1.00 in.	0	0	0	0
123 MUSKOGEE	05/20/1989	0210	Hail	1.75 in.	0	0	0	0
124 MUSKOGEE	05/20/1989	0255	Hail	1.75 in.	0	0	0	0
125 MUSKOGEE	05/22/1989	0215	Tstm Wind	52 kts.	0	0	0	0
126 MUSKOGEE	05/22/1989	0310	Tstm Wind	52 kts.	0	0	0	0
127 MUSKOGEE	05/22/1989	0415	Tstm Wind	0 kts.	0	0	0	0
128 MUSKOGEE	05/26/1989	0403	Tstm Wind	56 kts.	0	0	0	0
129 MUSKOGEE	05/26/1989	0415	Tstm Wind	78 kts.	0	0	0	0
130 MUSKOGEE	07/15/1989	2130	Tstm Wind	0 kts.	0	0	0	0
131 MUSKOGEE	07/23/1989	1350	Tstm Wind	61 kts.	0	0	0	0
132 MUSKOGEE	09/01/1989	1915	Hail	1.00 in.	0	0	0	0

133 MUSKOGEE	03/14/1990	0545	Tstm Wind	74 kts.	0	0	0	0
134 MUSKOGEE	05/16/1990	1535	Hail	0.88 in.	0	0	0	0
135 MUSKOGEE	05/19/1990	1740	Hail	0.75 in.	0	0	0	0
136 MUSKOGEE	05/19/1990	1815	Hail	1.25 in.	0	0	0	0
137 MUSKOGEE	05/19/1990	1845	Hail	0.75 in.	0	0	0	0
138 MUSKOGEE	05/19/1990	1925	Hail	0.75 in.	0	0	0	0
139 MUSKOGEE	05/19/1990	1938	Hail	1.75 in.	0	0	0	0
140 MUSKOGEE	05/21/1990	0130	Hail	0.75 in.	0	0	0	0
141 MUSKOGEE	08/14/1990	1500	Tstm Wind	0 kts.	0	0	0	0
142 MUSKOGEE	09/29/1990	1815	Tstm Wind	0 kts.	0	0	0	0
143 MUSKOGEE	11/27/1990	0815	Tstm Wind	0 kts.	0	0	0	0
144 MUSKOGEE	03/21/1991	1520	Hail	1.75 in.	0	0	0	0
145 MUSKOGEE	03/21/1991	1635	Hail	1.00 in.	0	0	0	0
146 MUSKOGEE	03/21/1991	1905	Hail	0.75 in.	0	0	0	0

147 MUSKOGEE	04/12/1991	0130	Tstm Wind	0 kts.	0	0	0	0
148 MUSKOGEE	06/22/1991	1500	Hail	0.88 in.	0	0	0	0
149 MUSKOGEE	06/22/1991	1520	Hail	1.75 in.	0	0	0	0
150 MUSKOGEE	06/22/1991	1545	Tstm Wind	52 kts.	0	0	0	0
151 MUSKOGEE	10/24/1991	1750	Hail	0.75 in.	0	0	0	0
152 MUSKOGEE	10/24/1991	1840	Hail	0.75 in.	0	0	0	0
153 MUSKOGEE	10/25/1991	2230	Hail	0.88 in.	0	0	0	0
154 MUSKOGEE	10/25/1991	2300	Tstm Wind	0 kts.	0	0	0	0
155 MUSKOGEE	10/28/1991	0310	Tstm Wind	0 kts.	0	0	0	0
156 MUSKOGEE	10/28/1991	0530	Tstm Wind	0 kts.	0	0	0	0
157 MUSKOGEE	10/28/1991	0545	Tstm Wind	0 kts.	0	0	0	0
158 MUSKOGEE	05/11/1992	0220	Tornado	F0	0	8	3K	0
159 Webbers Falls	04/24/1993	2020	Hail	0.75 in.	0	0	0	0
160 Boynton	05/02/1993	1630	Hail	0.88 in.	0	0	0	0
161 Webbers Falls	05/02/1993	1740	Hail	0.75	0	0	0	0

				in.				
162 Muskogee	05/02/1993	1930	Flash Flood	N/A	0	0	0	0
163 Warner -	05/02/1993	1930	Flash Flood	N/A	0	0	0	0
164 Countywide	05/08/1993	2100	Flash Flood	N/A	0	0	0	0
165 MUSKOGEE	05/09/1993	0830	Flash Flood	N/A	0	0	0	0
166 Muskogee	05/17/1993	2220	Thunderstorm Winds	N/A	0	0	0	0
167 W Muskogee	09/13/1993	1825	Thunderstorm Winds	N/A	0	0	0	0
168 Ne Muskogee	09/13/1993	1830	Thunderstorm Winds	N/A	0	0	0	0
169 MUSKOGEE	09/13/1993	2000	Flash Flood	N/A	0	0	0	0
170 Haskell	09/19/1993	2100	Flash Flood	N/A	0	0	5K	0
171 Keefeton	10/08/1993	1855	Thunderstorm Winds	N/A	0	0	5K	0
172 Jamesville	10/16/1993	0216	Hail	0.88 in.	0	0	0	0
173 Nr Braggs	10/16/1993	0300	Lightning	N/A	0	0	5K	0
174 Fort Gibson	10/16/1993	0305	Hail	1.75 in.	0	0	0	0
175 Muskogee	10/16/1993	0305	Hail	0.75 in.	0	0	0	0
176 Nr Fort Gibson	10/16/1993	1710	Hail	0.75 in.	0	0	0	0
177 Fort Gibson	10/16/1993	1740	Hail	1.50 in.	0	0	0	0
178 Eastern And	11/25/1993	0900	Ice	N/A	0	0	0	0

179 Muskogee	01/26/1994	0355	Hail	0.88 in.	0	0	0	0
180 Eastern Oklahoma	03/08/1994	0600	Heavy Snow	N/A	0	0	1K	0
181 Near Muskogee	07/02/1994	0130	Thunderstorm Winds	N/A	0	0	0	0
182 Webbers	07/02/1994	0210	Thunderstorm Winds	N/A	0	0	0	0
183 Warner	07/14/1994	1249	Thunderstorm Winds	N/A	0	0	0	0
184 Warner	07/14/1994	1300	Thunderstorm Winds	N/A	0	0	50K	0
185 Warner	07/14/1994	1305	Hail	0.88 in.	0	0	0	0
186 Warner	11/03/1994	0810	Tstm Wind	52 kts.	0	0	0	0
187 Webbers Falls	11/03/1994	0830	Tstm Wind	52 kts.	0	0	0	0
188 Warner	11/03/1994	0855	Tstm Wind	61 kts.	0	0	0	0
189 Muskogee	01/17/1995	0030	Hail	0.75 in.	0	0	0	0
190 OKZ060 - 064>067 - 070 - 071 - 073>076	01/22/1995	0100	Heavy Snow	N/A	0	0	0	0
191 Boynton	04/10/1995	1400	Hail	0.75 in.	0	0	0	0
192 Nr Muskogee	04/10/1995	1445	Flash Flood	N/A	0	0	0	0
193 Webbers Falls	04/10/1995	1530	Hail	0.75	0	0	0	0

				in.				
194 Council	04/17/1995	2130	Tornado	F0	0	0	0	0
195 Nr Council Hill	04/17/1995	2202	Tstm Wind	0 kts.	0	0	5K	0
196 Muskogee	04/17/1995	2210	Tstm Wind	0 kts.	0	0	0	0
197 Muskogee	04/17/1995	2212	Tstm Wind	0 kts.	0	0	5K	0
198 Muskogee	04/17/1995	2212	Tstm Wind	0 kts.	0	0	50K	0
199 Muskogee	04/17/1995	2215	Tstm Wind	0 kts.	0	0	5K	0
200 Muskogee To	04/17/1995	2300	Flash Flood	N/A	0	0	0	0
201 Porum	04/19/1995	1930	Hail	1.00 in.	0	0	0	0
202 N+c Muskogee Co.	04/29/1995	0700	Flash Flood	N/A	0	0	0	0
203 Webbers Falls	04/30/1995	1440	Hail	0.88 in.	0	0	0	0
204 Haskell	05/07/1995	2005	Thunderstorm Winds	N/A	0	0	0	0
205 Muskogee	05/07/1995	2145	Hail	0.75 in.	0	0	0	0
206 Okmulgee	05/31/1995	0915	Hail	1.00 in.	0	0	0	0
207 Morris	05/31/1995	0920	Hail	0.75 in.	0	0	0	0
208 Oktaha	05/31/1995	0958	Hail	0.75	0	0	0	0

				in.				
209 Muskogee	06/02/1995	0635	Hail	0.75 in.	0	0	0	0
210 Nr Oktaha	06/02/1995	1520	Hail	0.75 in.	0	0	0	0
211 Oktaha	06/02/1995	1520	Hail	0.88 in.	0	0	0	0
212 Braggs	06/02/1995	1600	Hail	0.88 in.	0	0	0	0
213 Braggs	06/09/1995	1330	Thunderstorm Winds	N/A	0	0	0	0
214 Braggs	06/09/1995	1944	Thunderstorm Winds	N/A	0	0	0	0
215 Braggs	06/09/1995	1950	Thunderstorm Winds	N/A	0	0	0	0
216 Muskogee	06/29/1995	0650	Thunderstorm Winds	N/A	0	0	0	0
217 Webbers Falls	08/19/1995	1415	Thunderstorm Winds	N/A	0	0	0	0
218 Muskogee	08/19/1995	1500	Thunderstorm Winds	N/A	0	0	0	0
219 Muskogee	08/19/1995	1500	Thunderstorm Winds	N/A	0	0	1K	0
220 Fort Gibson	10/26/1995	1800	Hail	1.00 in.	0	0	0	0
221 Muskogee	11/10/1995	1700	Thunderstorm Winds	N/A	0	0	0	0
222 Muskogee	12/10/1995	1700	Thunderstorm	N/A	0	0	0	0

			Winds					
223 OKZ068>076	01/01/1996	06:00 PM	Heavy Snow	N/A	0	0	0	0
224 Wainwright	01/17/1996	10:30 PM	Tstm Wind	0 kts.	0	0	12K	0
225 Council Hill	01/17/1996	10:40 PM	Tstm Wind	0 kts.	0	0	5K	0
226 Muskogee	01/17/1996	10:40 PM	Tstm Wind	0 kts.	0	0	0K	0
227 Muskogee	01/17/1996	10:40 PM	Tstm Wind	0 kts.	0	0	20K	0
228 Wainwright	01/17/1996	10:40 PM	Tstm Wind	0 kts.	0	0	5K	0
229 Muskogee	03/14/1996	06:35 PM	Hail	0.75 in.	0	0	0	0
230 Muskogee	03/24/1996	03:10 PM	Tstm Wind	52 kts.	0	0	0	0
231 Porum	03/24/1996	03:25 PM	Hail	0.75 in.	0	0	0	0
232 Haskell	03/30/1996	03:10 PM	Hail	0.75 in.	0	0	0	0
233 Haskell	03/30/1996	03:15 PM	Hail	0.75 in.	0	0	0	0
234 Braggs	03/30/1996	05:30 PM	Hail	0.88 in.	0	0	0	0
235 Oktaha	04/21/1996	11:50 PM	Hail	1.75 in.	0	0	0	0
236 Muskogee	04/21/1996	11:53 PM	Tstm Wind	56 kts.	0	0	0	0

237 <u>Warner</u>	04/22/1996	12:00 AM	Tstm Wind	0 kts.	0	0	10K	0
238 <u>Oktaha</u>	04/22/1996	12:09 AM	Hail	1.75 in.	0	0	0	0
239 <u>Braggs</u>	04/22/1996	12:16 AM	Hail	2.75 in.	0	0	0	0
240 <u>Webbers Falls</u>	04/28/1996	04:15 PM	Hail	0.88 in.	0	0	0	0
241 <u>Muskogee</u>	05/10/1996	06:00 PM	Flash Flood	N/A	0	0	0	0
242 <u>North Of Fort Gibson</u>	05/10/1996	06:00 PM	Flash Flood	N/A	0	0	10K	0
243 <u>Taft</u>	05/10/1996	10:30 AM	Hail	0.75 in.	0	0	0	0
244 <u>Haskell</u>	05/26/1996	11:10 PM	Tstm Wind	0 kts.	0	0	OK	0
245 <u>Warner</u>	05/27/1996	12:10 AM	Tstm Wind	0 kts.	0	0	OK	0
246 <u>Muskogee</u>	06/01/1996	02:30 AM	Tstm Wind	61 kts.	0	0	0	0
247 <u>Jamesville</u>	06/03/1996	01:16 AM	Hail	0.88 in.	0	0	0	0
248 <u>Jamesville</u>	06/03/1996	01:16 AM	Tstm Wind	52 kts.	0	0	0	0
249 <u>Webbers Falls</u>	06/19/1996	01:00 AM	Tstm Wind	63 kts.	0	0	0	0
250 <u>Haskell</u>	06/19/1996	12:07 AM	Tstm Wind	0 kts.	0	0	OK	0
251 <u>Haskell</u>	07/22/1996	10:05 PM	Tstm Wind	56	0	0	0	0

				kts.				
252 <u>Boynton</u>	07/22/1996	10:40 PM	Tstm Wind	56 kts.	0	0	0	0
253 <u>Haskell</u>	07/29/1996	11:20 PM	Tstm Wind	50 kts.	0	0	0	0
254 <u>In And Nr Muskogee</u>	09/26/1996	07:40 AM	Flash Flood	N/A	0	0	5K	0
255 <u>OKZ054>075</u>	11/24/1996	05:00 AM	Ice Storm	N/A	0	0	0	0
256 <u>OKZ054>070</u>	01/08/1997	09:00 AM	Heavy Snow	N/A	0	0	0	0
257 <u>Muskogee</u>	03/25/1997	01:17 AM	Tstm Wind	52 kts.	0	0	0	0
258 <u>Webbers Falls</u>	03/29/1997	10:40 PM	Tstm Wind	0 kts.	0	0	0K	0
259 <u>Boynton</u>	04/07/1997	09:45 PM	Hail	0.75 in.	0	0	0	0
260 <u>Wainwright</u>	04/20/1997	06:00 PM	Hail	0.75 in.	0	0	0	0
261 <u>Ft Gibson</u>	04/20/1997	07:00 PM	Hail	0.75 in.	0	0	0	0
262 <u>Ft Gibson</u>	04/20/1997	07:15 PM	Hail	0.75 in.	0	0	0	0
263 <u>Nr Muskogee</u>	05/02/1997	02:28 AM	Tstm Wind	56 kts.	0	0	0	0
264 <u>Boynton</u>	05/26/1997	07:27 PM	Hail	0.75 in.	0	0	0	0
265 <u>Nr Boynton</u>	05/26/1997	07:30 PM	Hail	1.75 in.	0	0	0	0
266 <u>Muskogee</u>	05/26/1997	07:45 PM	Tstm Wind	0	0	0	0K	0

				kts.				
267 <u>Porum</u>	06/16/1997	06:05 PM	Hail	1.00 in.	0	0	0	0
268 <u>Porum</u>	06/16/1997	06:05 PM	Hail	1.00 in.	0	0	0	0
269 <u>Muskogee</u>	06/16/1997	09:00 PM	Hail	1.00 in.	0	0	0	0
270 <u>Muskogee</u>	06/16/1997	09:07 PM	Hail	1.50 in.	0	0	0	0
271 <u>Porum</u>	06/16/1997	10:00 PM	Flash Flood	N/A	0	0	0	0
272 <u>Muskogee</u>	07/10/1997	11:15 AM	Flash Flood	N/A	0	0	0	0
273 <u>Ft Gibson</u>	07/10/1997	11:30 AM	Flash Flood	N/A	0	0	0	0
274 <u>Porum</u>	07/21/1997	08:10 PM	Tstm Wind	0 kts.	0	0	0K	0
275 <u>Muskogee</u>	10/09/1997	01:00 AM	Flash Flood	N/A	0	0	0	0
276 <u>Oktaha</u>	10/25/1997	01:12 PM	Tstm Wind	0 kts.	0	0	2K	0
277 <u>Wainwright</u>	10/25/1997	01:25 PM	Tstm Wind	0 kts.	0	0	10K	0
278 <u>Muskogee</u>	10/25/1997	01:47 PM	Hail	1.75 in.	0	0	0	0
279 <u>Muskogee</u>	10/25/1997	01:47 PM	Hail	1.75 in.	0	0	0	0
280 <u>Muskogee</u>	10/25/1997	01:47 PM	Hail	1.75 in.	0	0	0	0
281 <u>Muskogee</u>	11/05/1997	01:15 AM	Hail	0.75 in.	0	0	0	0

282 <u>Ft Gibson</u>	11/05/1997	01:35 AM	Hail	0.75 in.	0	0	0	0
283 <u>OKZ054 - 056>057 - 057>066 - 068>071 - 073</u>	01/08/1998	02:00 AM	Winter Storm	N/A	0	0	0	0
284 <u>OKZ049 - 053>076</u>	03/27/1998	07:00 AM	High Wind	0 kts.	0	0	25K	0
285 <u>Muskogee</u>	03/30/1998	06:44 PM	Tstm Wind	52 kts.	0	0	0	0
286 <u>Warner</u>	03/30/1998	06:46 PM	Hail	0.88 in.	0	0	0	0
287 <u>Warner</u>	03/30/1998	06:55 PM	Funnel Cloud	N/A	0	0	0	0
288 <u>Keefeton</u>	03/30/1998	07:00 PM	Hail	0.88 in.	0	0	0	0
289 <u>Braggs</u>	03/30/1998	07:32 PM	Hail	0.75 in.	0	0	0	0
290 <u>Braggs</u>	03/30/1998	07:32 PM	Tstm Wind	61 kts.	0	0	0	0
291 <u>Porum</u>	04/06/1998	09:40 PM	Tstm Wind	0 kts.	0	0	OK	0
292 <u>Haskell</u>	04/07/1998	07:30 PM	Hail	0.75 in.	0	0	0	0
293 <u>Ft Gibson</u>	04/07/1998	08:05 PM	Hail	0.75 in.	0	0	0	0
294 <u>Muskogee</u>	04/16/1998	01:45 AM	Hail	0.75 in.	0	0	0	0
295 <u>Warner</u>	04/16/1998	01:55 AM	Hail	0.75 in.	0	0	0	0

296 <u>Ft Gibson</u>	05/02/1998	03:10 PM	Hail	1.00 in.	0	0	0	0
297 <u>Muskogee</u>	05/02/1998	03:34 PM	Hail	1.00 in.	0	0	0	0
298 <u>Braggs</u>	05/02/1998	03:48 PM	Hail	0.75 in.	0	0	0	0
299 <u>Boynton</u>	05/06/1998	05:00 PM	Hail	1.75 in.	0	0	0	0
300 <u>Boynton</u>	05/06/1998	05:13 PM	Tornado	F0	0	0	0	0
301 <u>Boynton</u>	05/06/1998	05:20 PM	Hail	0.75 in.	0	0	0	0
302 <u>Boynton</u>	05/06/1998	05:21 PM	Tornado	F0	0	0	0	0
303 <u>Boynton</u>	05/06/1998	05:31 PM	Tstm Wind	0 kts.	0	0	0K	0
304 <u>Muskogee</u>	05/06/1998	05:32 PM	Hail	0.75 in.	0	0	0	0
305 <u>Webbers Falls</u>	06/08/1998	10:00 AM	Tstm Wind	52 kts.	0	0	0	0
306 <u>Taft</u>	06/08/1998	10:40 PM	Hail	0.75 in.	0	0	0	0
307 <u>Muskogee</u>	06/08/1998	10:46 PM	Hail	0.88 in.	0	0	0	0
308 <u>Muskogee</u>	06/08/1998	11:00 PM	Hail	0.75 in.	0	0	0	0
309 <u>Muskogee</u>	06/08/1998	11:03 PM	Tstm Wind	0 kts.	0	0	2K	0
310 <u>Braggs</u>	06/08/1998	11:10 PM	Hail	0.88 in.	0	0	0	0

311 <u>Ft Gibson</u>	06/08/1998	11:15 PM	Tstm Wind	0 kts.	0	0	25K	0
312 <u>Central Portion</u>	06/08/1998	11:35 PM	Flash Flood	N/A	0	0	0	0
313 <u>Braggs</u>	06/08/1998	11:50 PM	Tstm Wind	0 kts.	0	0	1K	0
314 <u>OKZ066 - 068>072 - 074</u>	06/09/1998	08:30 PM	High Wind	65 kts.	0	0	11K	0
315 <u>Muskogee</u>	06/10/1998	01:30 AM	Lightning	N/A	0	0	15K	0
316 <u>OKZ065>072 - 074</u>	06/10/1998	12:01 AM	High Wind	65 kts.	0	0	6K	0
317 <u>Taft</u>	06/18/1998	05:30 PM	Hail	1.75 in.	0	0	0	0
318 <u>Haskell</u>	06/18/1998	05:31 PM	Hail	1.75 in.	0	0	0	0
319 <u>Haskell</u>	06/18/1998	05:32 PM	Tstm Wind	70 kts.	0	0	1K	0
320 <u>Taft</u>	06/18/1998	05:44 PM	Hail	2.75 in.	0	0	0	0
321 <u>Muskogee</u>	06/18/1998	06:15 PM	Hail	0.88 in.	0	0	0	0
322 <u>Muskogee</u>	06/18/1998	06:20 PM	Tstm Wind	0 kts.	0	0	0K	0
323 <u>Muskogee</u>	06/18/1998	06:55 PM	Hail	0.75 in.	0	0	0	0
324 <u>Muskogee</u>	06/18/1998	07:00 PM	Tstm Wind	0 kts.	0	0	2K	0
325 <u>Ft Gibson</u>	06/21/1998	02:40 AM	Tstm Wind	83 kts.	0	0	0	0

326 <u>OKZ049 - 053 - 060 - 064>068 - 070>076</u>	07/06/1998	12:00 AM	Excessive Heat	N/A	5	0	0	0
327 <u>Haskell</u>	08/09/1998	06:30 AM	Tstm Wind	0 kts.	0	0	0K	0
328 <u>Muskogee</u>	08/26/1998	06:30 PM	Tstm Wind	0 kts.	0	0	11K	0
329 <u>Ft Gibson</u>	09/13/1998	11:00 PM	Flash Flood	N/A	0	0	0	0
330 <u>Muskogee</u>	09/14/1998	04:30 AM	Flash Flood	N/A	0	0	0	0
331 <u>Council Hill</u>	10/04/1998	11:10 PM	Tstm Wind	0 kts.	0	0	1K	0
332 <u>Muskogee</u>	10/04/1998	11:27 PM	Funnel Cloud	N/A	0	0	0	0
333 <u>Muskogee</u>	10/04/1998	11:48 PM	Tstm Wind	0 kts.	0	0	1K	0
334 <u>Countywide</u>	10/05/1998	06:30 AM	Flash Flood	N/A	0	0	30K	0
335 <u>Haskell</u>	10/05/1998	12:20 AM	Hail	0.88 in.	0	0	0	0
336 <u>Muskogee</u>	11/09/1998	11:13 PM	Tstm Wind	52 kts.	1	0	5K	0
337 <u>Muskogee</u>	11/09/1998	11:25 PM	Tstm Wind	52 kts.	0	0	0	0
338 <u>OKZ070</u>	11/10/1998	12:00 AM	Flood	N/A	0	0	0	0
339 <u>OKZ054>075</u>	12/21/1998	12:00 AM	Freezing Drizzle	N/A	0	0	0	0
340 <u>OKZ057>058 - 060>062 - 066>067 - 070</u>	01/22/1999	07:00 PM	Heavy Snow	N/A	0	0	0	0
341 <u>North Portion</u>	02/06/1999	04:30 PM	Flash Flood	N/A	0	0	0	0

342 <u>Haskell</u>	03/08/1999	06:20 PM	Tstm Wind	0 kts.	0	0	8K	0
343 <u>Muskogee</u>	03/08/1999	06:24 PM	Hail	0.75 in.	0	0	0	0
344 <u>Warner</u>	03/08/1999	06:24 PM	Hail	0.88 in.	0	0	0	0
345 <u>Porum</u>	03/08/1999	06:28 PM	Hail	0.75 in.	0	0	0	0
346 <u>Muskogee</u>	03/08/1999	06:30 PM	Tstm Wind	0 kts.	0	0	30K	0
347 <u>Braggs</u>	03/08/1999	06:50 PM	Hail	0.88 in.	0	0	0	0
348 <u>OKZ054>070</u>	03/13/1999	03:00 PM	Heavy Snow	N/A	0	0	21K	0
349 <u>Jamesville</u>	04/14/1999	05:56 PM	Hail	1.00 in.	0	0	0	0
350 <u>Taft</u>	04/22/1999	06:30 PM	Tstm Wind	0 kts.	0	0	0K	0
351 <u>Muskogee</u>	04/22/1999	06:45 PM	Flash Flood	N/A	0	0	0	0
352 <u>Muskogee</u>	04/22/1999	06:50 PM	Tornado	F0	0	0	1K	0
353 <u>Jamesville</u>	04/22/1999	07:00 PM	Hail	0.75 in.	0	0	0	0
354 <u>Muskogee</u>	04/22/1999	07:30 PM	Lightning	N/A	0	0	10K	0
355 <u>OKZ070</u>	04/26/1999	04:00 AM	Flood	N/A	0	0	0	0
356 <u>Countywide</u>	04/26/1999	11:00 AM	Flash Flood	N/A	0	0	0	0
357 <u>OKZ067 - 070</u>	05/04/1999	01:00 PM	Flood	N/A	0	0	0	0
358 <u>Muskogee</u>	05/04/1999	12:15 PM	Hail	0.88 in.	0	0	0	0

359 <u>Boynton</u>	05/04/1999	12:59 AM	Tornado	F0	0	0	0	0
360 <u>Muskogee</u>	05/11/1999	07:35 PM	Hail	1.75 in.	0	0	0	0
361 <u>Ft Gibson</u>	05/11/1999	07:45 PM	Hail	1.00 in.	0	0	0	0
362 <u>Ft Gibson</u>	05/11/1999	07:45 PM	Tstm Wind	0 kts.	0	0	15K	0
363 <u>Braggs</u>	05/11/1999	08:00 PM	Hail	1.75 in.	0	0	0	0
364 <u>Braggs</u>	05/11/1999	08:00 PM	Tornado	F0	0	0	1K	0
365 <u>Braggs</u>	05/11/1999	08:16 PM	Tornado	F0	0	0	1K	0
366 <u>Braggs</u>	05/11/1999	08:45 PM	Hail	1.75 in.	0	0	0	0
367 <u>Ft Gibson</u>	05/11/1999	09:00 AM	Lightning	N/A	0	0	0	1K
368 <u>Braggs</u>	05/11/1999	09:20 PM	Flash Flood	N/A	0	0	0	0
369 <u>East Portion</u>	05/12/1999	02:05 AM	Flash Flood	N/A	0	0	160K	0
370 <u>Wainwright</u>	05/17/1999	01:10 AM	Tstm Wind	0 kts.	0	0	95K	0
371 <u>Oktaha</u>	05/17/1999	01:15 AM	Tstm Wind	0 kts.	0	3	165K	0
372 <u>Muskogee</u>	05/17/1999	01:20 AM	Tstm Wind	0 kts.	0	0	100K	0
373 <u>Braggs</u>	05/17/1999	08:20 AM	Tstm Wind	0 kts.	0	0	1K	0
374 <u>Jamesville</u>	05/22/1999	06:38 PM	Tstm Wind	0 kts.	0	0	5K	0
375 <u>Haskell</u>	05/22/1999	06:52 PM	Tstm Wind	57	0	0	0K	0

				kts.				
376 <u>Muskogee</u>	05/22/1999	07:00 PM	Urban/sml Stream Fld	N/A	0	0	8K	0
377 <u>Ft Gibson</u>	05/23/1999	03:15 AM	Tstm Wind	0 kts.	0	0	1K	0
378 <u>OKZ067 - 070</u>	05/23/1999	10:00 AM	Flood	N/A	0	0	0	0
379 <u>Ft Gibson</u>	06/01/1999	05:08 PM	Hail	1.75 in.	0	0	25K	0
380 <u>Ft Gibson</u>	06/01/1999	05:16 PM	Tornado	F1	0	0	2.0M	0
381 <u>Braggs</u>	06/01/1999	05:50 PM	Hail	1.75 in.	0	0	0	0
382 <u>Warner</u>	06/01/1999	06:45 PM	Tstm Wind	0 kts.	0	0	1K	0
383 <u>Porum</u>	06/01/1999	07:00 PM	Tstm Wind	0 kts.	0	0	1K	0
384 <u>Muskogee</u>	06/07/1999	06:30 PM	Hail	0.88 in.	0	0	0	0
385 <u>Muskogee</u>	06/07/1999	06:30 PM	Tstm Wind	52 kts.	0	0	0	0
386 <u>Muskogee</u>	06/07/1999	06:30 PM	Urban/sml Stream Fld	N/A	0	0	3K	0
387 <u>Muskogee</u>	06/07/1999	07:30 PM	Hail	1.00 in.	0	0	0	0
388 <u>Boynton</u>	06/07/1999	07:55 PM	Hail	0.88 in.	0	0	0	0
389 <u>Muskogee</u>	06/10/1999	01:00 PM	Flash Flood	N/A	0	0	10K	0
390 <u>Warner</u>	06/24/1999	01:25 PM	Tstm Wind	50 kts.	0	0	0	0

391 OKZ067 - 070	06/24/1999	12:00 AM	Flood	N/A	0	0	0	0
392 OKZ067 - 070	07/01/1999	12:00 AM	Flood	N/A	0	0	0	0
393 Haskell	08/23/1999	05:20 PM	Tstm Wind	0 kts.	0	0	2K	0
394 Haskell	08/23/1999	05:48 PM	Hail	0.75 in.	0	0	0	0
395 Haskell	08/23/1999	05:48 PM	Tstm Wind	61 kts.	0	0	0	0
396 Ft Gibson	09/07/1999	09:00 PM	Tstm Wind	52 kts.	0	0	0	0
397 Haskell	09/10/1999	01:40 PM	Hail	1.00 in.	0	0	0	0
398 Jamesville	09/10/1999	02:07 PM	Hail	0.75 in.	0	0	0	0
399 Muskogee Davis Arpt	09/10/1999	02:25 PM	Tstm Wind	52 kts.	0	0	0	0
400 Webbers Falls	09/10/1999	02:50 PM	Tstm Wind	61 kts.	0	0	0	0
401 Haskell	11/22/1999	09:15 PM	Tstm Wind	0 kts.	0	0	1K	0
402 Haskell	11/22/1999	10:05 PM	Tstm Wind	0 kts.	0	0	5K	0
403 Muskogee	12/03/1999	12:00 AM	Hail	0.75 in.	0	0	0	0
404 OKZ049 - 053>076	01/27/2000	07:00 AM	Heavy Snow	N/A	0	0	0	0
405 Muskogee	03/07/2000	11:22 PM	Hail	0.88 in.	0	0	0	0


406 <u>Summit</u>	03/07/2000	11:24 PM	Hail	1.00 in.	0	0	0	0
407 <u>Council Hill</u>	03/26/2000	04:16 PM	Hail	0.75 in.	0	0	0	0
408 <u>Haskell</u>	03/26/2000	05:00 PM	Hail	0.88 in.	0	0	0	0
409 <u>Porum</u>	03/26/2000	05:00 PM	Tornado	F0	0	0	0	0
410 <u>Porum</u>	03/26/2000	05:13 PM	Hail	1.75 in.	0	0	0	0
411 <u>Jamesville</u>	03/26/2000	05:14 PM	Hail	4.50 in.	0	0	0	0
412 <u>Jamesville</u>	03/26/2000	05:14 PM	Tstm Wind	74 kts.	0	0	0	0
413 <u>Muskogee</u>	03/26/2000	05:20 PM	Hail	1.00 in.	0	0	0	0
414 <u>Porum</u>	03/26/2000	06:20 PM	Hail	1.00 in.	0	0	0	0
415 <u>Haskell</u>	04/19/2000	11:00 PM	Hail	1.75 in.	0	0	0	0
416 <u>Muskogee</u>	04/19/2000	11:15 PM	Hail	0.75 in.	0	0	0	0
417 <u>Muskogee</u>	04/19/2000	11:32 PM	Tstm Wind	0 kts.	0	0	1K	0
418 <u>Keefeton</u>	04/23/2000	03:15 PM	Hail	0.75 in.	0	0	0	0
419 <u>Council Hill</u>	05/05/2000	08:35 PM	Hail	0.75 in.	0	0	0	0
420 <u>Muskogee</u>	05/05/2000	08:35 PM	Hail	0.75	0	0	0	0


				in.				
421 <u>Boynton</u>	05/05/2000	09:15 PM	Hail	1.75 in.	0	0	0	0
422 <u>Summit</u>	05/05/2000	09:44 PM	Hail	1.75 in.	0	0	0	0
423 <u>Haskell</u>	05/06/2000	01:30 AM	Tstm Wind	0 kts.	0	0	1K	0
424 <u>West Portion</u>	05/06/2000	04:30 AM	Flash Flood	N/A	0	0	75K	0
425 <u>Boynton</u>	05/06/2000	05:10 AM	Hail	0.75 in.	0	0	0	0
426 <u>Boynton</u>	05/16/2000	04:30 AM	Hail	0.88 in.	0	0	0	0
427 <u>Muskogee</u>	05/26/2000	08:20 AM	Tstm Wind	0 kts.	0	0	1K	0
428 <u>Jamesville</u>	05/26/2000	10:15 PM	Tstm Wind	0 kts.	0	0	1K	0
429 <u>Taft</u>	05/26/2000	11:30 PM	Tstm Wind	52 kts.	0	0	0	0
430 <u>Muskogee</u>	05/26/2000	11:35 PM	Tstm Wind	52 kts.	0	0	0	0
431 <u>Ft Gibson</u>	05/26/2000	11:45 PM	Tstm Wind	0 kts.	0	0	10K	0
432 <u>Countywide</u>	06/21/2000	09:18 AM	Flash Flood	N/A	0	0	200K	0
433 <u>Muskogee</u>	10/05/2000	05:55 PM	Hail	0.88 in.	0	0	0	0
434 <u>OKZ054>072 - 074>076</u>	12/11/2000	06:00 AM	Ice Storm	N/A	0	0	0	0
435 <u>OKZ049 - 053 -</u>	12/12/2000	03:00 PM	Ice Storm	N/A	0	0	0	0

070>076								
436 <u>OKZ049 - 053>076</u>	12/25/2000	07:00 AM	Ice Storm	N/A	0	0	0	0
437 <u>OKZ049 - 053>054 - 059 - 064>067 - 070>071 - 073>076</u>	12/31/2000	01:00 AM	Heavy Snow	N/A	0	0	0	0
438 <u>Muskogee</u>	02/09/2001	03:00 AM	Tstm Wind	0 kts.	0	0	50K	0
439 <u>Muskogee</u>	02/09/2001	03:15 AM	Tstm Wind	0 kts.	0	0	10K	0
440 <u>Muskogee</u>	02/24/2001	11:19 AM	Tstm Wind	0 kts.	0	0	1K	0
441 <u>Muskogee</u>	02/24/2001	11:40 AM	Hail	0.75 in.	0	0	0	0
442 <u>Haskell</u>	03/12/2001	12:06 AM	Tstm Wind	52 kts.	0	0	0	0
443 <u>Muskogee</u>	04/11/2001	06:00 AM	Tstm Wind	0 kts.	0	0	20K	0
444 <u>Webbers Falls</u>	04/11/2001	06:30 AM	Tstm Wind	52 kts.	0	0	0	0
445 <u>Muskogee</u>	04/15/2001	01:55 AM	Hail	0.75 in.	0	0	0	0
446 <u>Porum</u>	05/20/2001	05:30 PM	Tstm Wind	0 kts.	0	0	250K	0
447 <u>Webbers Falls</u>	05/20/2001	06:00 PM	Hail	0.88 in.	0	0	0	0
448 <u>Porum</u>	05/20/2001	07:25 PM	Tstm Wind	0 kts.	0	0	0K	0

449 <u>Porum</u>	05/23/2001	09:45 PM	Tstm Wind	0 kts.	0	0	0K	0
450 <u>Haskell</u>	05/27/2001	04:50 PM	Hail	0.75 in.	0	0	0	0
451 <u>Muskogee</u>	05/30/2001	03:30 AM	Flash Flood	N/A	0	0	0	0
452 <u>Webbers Falls</u>	05/30/2001	05:37 AM	Tstm Wind	52 kts.	0	0	0	0
453 <u>Warner</u>	06/29/2001	11:15 PM	Hail	1.00 in.	0	0	0	0
454 <u>Taft</u>	06/29/2001	11:40 PM	Hail	1.75 in.	0	0	50K	0
455 <u>Jamesville</u>	08/10/2001	02:10 PM	Tstm Wind	52 kts.	0	0	2K	0
456 <u>Taft</u>	08/10/2001	02:35 PM	Tstm Wind	52 kts.	0	0	0	0
457 <u>Muskogee</u>	08/25/2001	09:30 PM	Hail	0.75 in.	0	0	0	0
458 <u>Muskogee</u>	09/07/2001	09:15 PM	Tstm Wind	61 kts.	0	0	0	0
459 <u>Council Hill</u>	09/07/2001	09:30 PM	Hail	0.75 in.	0	0	0	0
460 <u>Muskogee</u>	10/09/2001	04:19 PM	Tstm Wind	61 kts.	0	0	0	0
461 <u>Braggs</u>	10/10/2001	02:10 PM	Tstm Wind	61 kts.	0	0	5K	0
462 <u>OKZ054>058 - 060>071 - 073>074</u>	03/02/2002	02:00 AM	Heavy Snow	N/A	0	0	0	0
463 <u>Muskogee</u>	03/24/2002	10:15 PM	Hail	0.75	0	0	0	0

				in.				
464 Oktaha	05/09/2002	01:30 AM	Hail	0.75 in.	0	0	0	0
465 Warner	05/09/2002	02:15 AM	Hail	0.88 in.	0	0	0	0
466 Oktaha	05/12/2002	03:56 PM	Tstm Wind	52 kts.	0	0	0	0
467 Porum	05/17/2002	03:45 AM	Hail	0.75 in.	0	0	0	0
468 Porum	05/17/2002	03:45 AM	Tstm Wind	52 kts.	0	0	0	0
TOTALS:					11	46	4.580M	1K

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Event Record Details

Event: Flash Flood	State: Oklahoma
Begin Date: 10 Jul 1997, 11:30:00 AM CST	Map of Counties
Begin Location: Ft Gibson	County: Muskogee
End Date: 10 Jul 1997, 12:30:00 PM CST	
End Location: Ft Gibson	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
Thunderstorms in Muskogee County of northeast Oklahoma produced up to 5 inches of rain which resulted in flash flooding. Widespread street flooding occurred in Muskogee, and Sams Creek overflowed its banks resulting in minor flooding in the Meadows subdivision on the south side of Muskogee. However, no homes were flooded in Muskogee. State Highway 10 was impassable in the town of Fort Gibson due to high water over the roadway.

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Event Record Details

Event: Flash Flood	State: Oklahoma
Begin Date: 09 Oct 1997, 01:00:00 AM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
End Date: 09 Oct 1997, 01:30:00 AM CST	
End Location: Muskogee	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
Thunderstorms in Muskogee County during the late evening of October 8th and early morning of October 9th produced very heavy rainfall which resulted in flash flooding in the city of Muskogee. Some streets in Muskogee were covered by 2 to 3 feet of water.


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Event Record Details

Event: Hail	State: Oklahoma
Begin Date: 25 Oct 1997, 01:47:00 PM CST	Map of Counties
Begin Location: 1 Mile West of Muskogee	County: Muskogee
Begin 35°45'N / 95°23'W	
LAT/LON:	
End Date: 25 Oct 1997, 01:47:00 PM CST	
End Location: 1 Mile West North West of Muskogee	
End LAT/LON: 35°45'N / 95°23'W	
Magnitude: 1.75 inches	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
Severe thunderstorms developed in eastern Oklahoma during the early afternoon of October 25th. Strong thunderstorm winds destroyed 1 barn and caused major damage to several other buildings along State Highway 9 just east of Whitefield. A few cars were damaged and 6 power poles were also broken by the strong winds in this same location. The Haskell County Sheriff's Office estimated damage just east of Whitefield at \$350,000. Thunderstorm winds downed numerous trees and large tree limbs, peeled the roofs off 2 barns, and tore shingles off 2 houses along a path from 7 miles west northwest of Checotah to 6 miles northwest of Checotah (6 miles west southwest of Oktaha) to 4 miles east of Wainwright. An 18 wheeler was blown off U.S. Highway 69 by strong thunderstorm winds 5 miles east of Wainwright, and a roof was blown off an outbuilding and trees and phone lines were blown down 5 miles east of Wilburton. Trees were also blown down 3 miles southeast of Wilburton. Golfball size hail fell at Muskogee, 1 mile west of Muskogee, and 7 miles west of Muskogee, and dime to quarter

size hail fell at Wilburton.

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Event Record Details

Event: Hail	State: Oklahoma
Begin Date: 06 May 1998, 05:32:00 PM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
Begin 35°45'N / 95°22'W	
LAT/LON:	
End Date: 06 May 1998, 05:32:00 PM CST	
End Location: Muskogee	
End LAT/LON: 35°45'N / 95°22'W	
Magnitude: 0.75 inches	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
Dime-sized hail on Country Club Road in Muskogee Summary of events for May 6:
Numerous severe thunderstorms developed over eastern Oklahoma during the late afternoon and evening hours of May 6. Many of these thunderstorms developed rotation with some storms ultimately producing tornadoes. The first thunderstorms of the day developed over central Oklahoma and then moved eastward toward Okfuskee County after 430 PM CDT, traversing the counties along and just north of I-40 through 730 PM CDT before exiting into Arkansas to the east of Stilwell and Sallisaw. These thunderstorms produced large hail, numerous reports of funnel clouds, and two brief tornado touchdowns in Muskogee County. Other severe thunderstorms developed behind the first cluster, producing severe weather primarily in Creek and Okmulgee Counties from 700 PM to 830 PM CDT. Other severe thunderstorms developed rapidly around 600 PM CDT along a weak cold front across the northern border counties of Oklahoma. These storms primarily produced large hail. Further

south in southeast Oklahoma, a cap of warm air in the mid-levels of the atmosphere prevented thunderstorm development until around 700 PM CDT with the approach of an upper level disturbance. Once thunderstorms developed in Pittsburg County, they rapidly became severe and began rotating. These storms moved east across Haskell and northern Le Flore Counties through 900 PM CDT, producing large hail, numerous reports of funnel clouds, several brief tornado touchdowns and a tornado producing considerable damage in the small town of Calhoun in northwestern Le Flore County. At the time of the Calhoun tornado, the WSR-88D near Fort Smith had its first algorithm-induced tornado vortex signature (TVS).

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Event Record Details

Event: Tstm Wind	State: Oklahoma
Begin Date: 08 Jun 1998, 10:00:00 AM CST	Map of Counties
Begin Location: Webbers Falls	County: Muskogee
Begin 35°31'N / 95°08'W	
LAT/LON:	
End Date: 08 Jun 1998, 10:00:00 AM CST	
End Location: Webbers Falls	
End LAT/LON: 35°31'N / 95°08'W	
Magnitude: 52	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
Summary of events for the evening of June 8 and the early morning of June 9 1998: A classic southern plains severe weather event shaped up on the afternoon and evening of June 8 as a number of isolated severe thunderstorms developed over central Oklahoma to the east of a dryline. The first severe thunderstorm to affect eastern Oklahoma scraped the northwestern part of Osage County, causing a report of a severe thunderstorm gust. This storm quickly died as it entered Kansas. A second more serious severe thunderstorm formed west of Oklahoma City and tracked all the way to the Arkansas state line south of Fort Smith, traversing Pittsburg, Haskell, and Le Flore Counties. This storm travelled east along an instability axis and a warm front. From a radar perspective, this storm was impressive in that it kept a classic, well-defined hook on its entire journey across southeast Oklahoma. From a human perspective, this storm was impressive in that it produced ten tornadoes in southeast Oklahoma, hail as large as golfballs, damaging thunderstorm winds, and torrential flooding

rains. A third cluster of severe thunderstorms developed over Creek County and moved east across Okmulgee, Muskogee, Cherokee, and Adair Counties before weakening as it entered Arkansas. These storms slowed their movement across Muskogee County and regeneration along the southwest flank of the storms caused torrential rainfalls that dumped nearly three inches of rain in northern Muskogee, southern Cherokee, southern Adair, and northern Sequoyah Counties. In addition to flooding rains, these storms produced hail as large as nickels and damaging thunderstorm winds.

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Event Record Details

Event: High Wind	State: Oklahoma
Begin Date: 10 Jun 1998, 12:01:00 AM CST	Map of Counties
Begin Location: Not Known	Forecast Adair, Cherokee,
End Date: 10 Jun 1998, 02:30:00 AM CST	Zones Haskell, McIntosh,
End Location: Not Known	affected: Muskogee, Okfuskee,
Magnitude: 65 knots	Okmulgee, Sequoyah,
Fatalities: 0	Wagoner
Injuries: 0	
Property \$ 6.0K	
Damage:	
Crop Damage: \$ 0.0	

Description:
Summary of non-convective high wind event during early AM of June 10 1998: Localized areas of high wind developed again during the early morning of June 10 due to rapidly sinking air to the north of a thunderstorm complex moving across southeast Oklahoma. The winds first developed around Okemah and moved east to the Arkansas state line generally north of I-40 and south of US Hwy 412. Along the way, there were widespread wind gusts in excess of 45-50 mph with local gusts to 75 mph. Spotters reported wind gusts to 75 mph just northeast of Checotah in McIntosh County at 151 AM CDT. Spotters near Eufaula reported a gust to 60 mph at 208 AM CDT. The Oklahoma mesonet site at 5 SSE Haskell measured a gust to 61 mph at 210 AM CDT. The Channel 2 weather net site at Henryetta measured a gust to 52 mph around 200 AM CDT, and their site in Muskogee measured a gust to 57 mph between 215 and 230 AM CDT. The winds knocked down numerous trees and power lines in the affected counties. In Muskogee, about 1/4 of the city was without power, and there were at least two electrical fires caused by downed power lines. Winds to 50 mph were reported in Gore at 317 AM CDT.

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Event Record Details

Event: Tstm Wind	State: Oklahoma
Begin Date: 18 Jun 1998, 07:00:00 PM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
Begin 35°45'N / 95°22'W	
LAT/LON:	
End Date: 18 Jun 1998, 07:00:00 PM CST	
End Location: Muskogee	
End LAT/LON: 35°45'N / 95°22'W	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 2.0K	
Damage:	
Crop Damage: \$ 0.0	

Description:
A barn shop was blown down on the south side of Muskogee. Summary of events for June 18-19 1998: An approaching cold front and a vigorous upper level low moving into the southern plains helped ignite an outbreak of severe thunderstorms on the late afternoon of June 18, lasting into the early morning of June 19. The first storms of the day formed along the I-44 corridor near the front with the severe weather emphasis slowly shifting southward during the evening and early morning. This outbreak of severe weather produced the full gamut of severe weather including very large hail to the size of baseballs, damaging thunderstorm winds, and a brief tornado touchdown. In addition, cell mergers were fairly common with this event, causing localized areas of excessive rainfall and flash flooding.

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10/15/02


Event Record Details

Event: Excessive Heat
Begin Date: 06 Jul 1998, 12:00:00 AM CST
Begin Location: Not Known
End Date: 31 Jul 1998, 11:59:00 PM CST
End Location: Not Known
Magnitude: 0
Fatalities: 5
Injuries: 0
Property \$ 0.0
Damage:
Crop Damage: \$ 0.0

State: Oklahoma
[Map of Counties](#)
Forecast Cherokee, Choctaw,
Zones Creek, Haskell,
affected: Latimer, Le Flore,
Mcintosh, Muskogee,
Okfuskee, Okmulgee,
Pittsburg,
Pushmataha,
Sequoyah, Tulsa,
Wagoner

Description:
A blistering heat wave struck the south-central part of the nation during July 1998, including much of eastern Oklahoma. A drought also accompanied the heat wave in southeast Oklahoma, combining with the heat wave to cause devastating crop damage. (For specific information on the drought aspect and crop damage, see the Drought entry in eastern Oklahoma's July Storm Data.) This was all brought about by a persistent upper level ridge of high pressure over the south-central and southwestern parts of the nation. Temperatures in some portion of southeast Oklahoma rose above 100 degrees on all but two days of the month, particularly further south in Choctaw and Pushmataha Counties. At the McAlester ASOS, 100+ degree temperatures were recorded on 24 out of 31 days during July. In fact, there were 15 consecutive days above the century mark from the 17th through the 31st, and the mercury soared to at least 105 degrees every day from the 23rd through the 31st, rising as high as 107 on three days. The average high temperature for the entire month of July in McAlester was 102.0 degrees. The average monthly temperature was 89.3 degrees, or 7.4 degrees above normal. The temperature failed to fall below 80 degrees on eight days of the month. Further north at the Muskogee ASOS, conditions were similar as temperatures reached at least 100

degrees on all but one day from the 18th through the 31st. The temperature rose as high as 107 on the 26th. In Tulsa, weak cold fronts put a damper on the extreme heat for two to four days at a time, but temperatures reached at least 100 degrees eight times in July. The temperature rose as high as 106 on the 30th. Five deaths in eastern Oklahoma during July are blamed on the heat, not including a 40-year old man who suffered a heat stroke in June and died on July 13. The first was a 40-year old Tulsa man who suffered a heat stroke near 800 S. Boulder Avenue in downtown Tulsa on July 10. The high temperature that day in Tulsa reached 99 degrees after a morning low of 80 with afternoon heat indices near 110 degrees. An 86-year old Hugo man died on July 15 after suffering from dehydration and heat. Another 40-year old Tulsa man and a 63-year old Broken Arrow man had also died of heat stroke through July 20, but the exact day of these two deaths was not included in newspaper articles and is unknown. On the 30th, a 39-year old Henryetta woman died of hyperthermia. The temperature at Tulsa rose that day to 106, and McAlester rose to 105. The State Health Department reported that Emergency Medical Services throughout Oklahoma had responded to 452 heat-related injuries during the period June 1 to July 31, but it is unknown when and how many of those took place in the eastern portion of Oklahoma. M40OU, M40OT, M62OT, M86PH, F39OT

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Event Record Details

Event: Tstm Wind	State: Oklahoma
Begin Date: 26 Aug 1998, 06:30:00 PM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
Begin 35°45'N / 95°22'W	
LAT/LON:	
End Date: 26 Aug 1998, 06:30:00 PM CST	
End Location: Muskogee	
End LAT/LON: 35°45'N / 95°22'W	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 11.0K	
Damage:	
Crop Damage: \$ 0.0	

Description:
A thunderstorm on the south side of Muskogee caused considerable wind damage as the storm collapsed. Most of the damage was confined to a 2-mile long area along Peak Blvd. bounded by US Hwy 69 on the west and Cherokee Street on the east. The Muskogee Phoenix daily newspaper reported the following damage: - The trailer portion of an 18-wheeler was blown over, although it is unknown whether or not the trailer was loaded. - A shop had its overhead doors blown out. - One building partially collapsed, and another building under construction had a secured wall blown over. - Sheet metal was blown off the roof of one building. - A fence partially constructed of concrete block was blown over. - The ASOS at Davis Field measured a peak gust of 47 mph, although this location was south of the main damage area. Summary of events for August 26 1998: Widely scattered pulse thunderstorms developed on the afternoon and evening of August 26 as a weak trough of low pressure interacted with cool air aloft. Two of the day's thunderstorms were notable. One developed just north of Bartlesville early in the

afternoon and collapsed near Dewey, spawning destructive outflow winds. The other noteworthy thunderstorm developed quickly to the south of Muskogee early in the evening. This thunderstorm collapsed as it moved north into the city, producing damaging outflow winds.

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Event Record Details

Event: Flash Flood	State: Oklahoma
Begin Date: 14 Sep 1998, 04:30:00 AM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
End Date: 14 Sep 1998, 06:30:00 AM CST	
End Location: Muskogee	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
Several low-water bridges were flooded and impassable, while other county roads were flooded near Muskogee. Summary of flooding events for September 13-14 1998: Tropical Storm "Frances" moved onshore the Texas coast on September 11 and moved northward through eastern Texas, bringing much-needed rainfall to eastern Oklahoma by September 12. As is typical with inland tropical systems, the heaviest rainfall took place during the overnight hours, specifically on the early morning of the 13th and again on the 14th. Rains on the 12th mostly affected southeast Oklahoma and soaked into the soil readily because of the drought that plagued central and southern Oklahoma through July and August. On the 13th, the circulation associated with Frances had nearly dissipated over northeast Texas, but a fetch of deep tropical moisture was established from the Gulf of Mexico right into eastern Oklahoma, bringing widespread 1-3 inch rains to all of eastern Oklahoma early on the 13th. Again, most of this rain soaked into the soil because of the dry preceding conditions. By late on the evening of the 13th, most soils were finally near saturation. Early on the morning of the 14th, an approaching upper level disturbance combined with the fetch of rich moisture to enhance rainfall in an area roughly following US Hwy 69 from Eufaula to Miami. Overnight rainfall

totals of 4 to 5 inches were common in this area with local amounts in excess of 7 inches, causing flash flooding to commence. Most of the flooding involved the inundation of low-water crossings and even some main highways. In addition to the flash flooding described above, the Neosho River at Commerce rose above flood stage on the 15th and 16th. Some two-day rainfall totals include (in inches): Muskogee Davis Field (MKO)...8.08, Spavinaw Dam...8.07, Oktaha_2NE...7.42, Webbers Falls_3S...7.33, Miami_2NE...7.00, Vinita_2N...6.72, Checotah...6.70, Wagoner...6.66, Wilburton_9ENE...6.42, Pryor_6N...6.24, Jay_4N...6.13, Sallisaw_2SSW...6.11, and Delaware_3SE (Nowata mesonet)...5.52.

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Event Record Details

Event: Tstm Wind	State: Oklahoma
Begin Date: 04 Oct 1998, 11:48:00 PM CST	Map of Counties
Begin Location: 1 Mile North East of Muskogee	County: Muskogee
Begin 35°46'N / 95°21'W	
LAT/LON:	
End Date: 04 Oct 1998, 11:48:00 PM CST	
End Location: 1 Mile North East of Muskogee	
End LAT/LON: 35°46'N / 95°21'W	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 1.0K	
Damage:	
Crop Damage: \$ 0.0	

Description:
Quite a few trees were blown down at OK Hwy 16 and US Hwy 62. There was apparently a 100-foot wide swath of damage. These winds were produced by the same thunderstorm that produced a tornado near Tullahassee. Summary of tornado/severe events for October 4 PM - October 5 1998: Oklahoma's worst-ever October tornado outbreak took place on the evening of October 4. At least 22 tornadoes occurred throughout Oklahoma, of which seven were in northeast Oklahoma. This outbreak of severe weather resulted as a powerful upper level storm system moved across the central plains and surface low pressure developed over southwest Oklahoma. Warm humid air quickly invaded the area on the morning of October 4 and then collided with a cold front moving southward by evening. The threat from these storms ran the full range of possibilities from destructive tornadoes to damaging winds to very large hail up to the size of baseballs. Numerous storms occurred on the evening of October 4, mainly north of Interstate 40. The two most significant storms both moved eastward out of

central Oklahoma. One produced an F1 tornado that passed through Pawnee. The other produced a 27-mile track F2 tornado that started in Okfuskee County and ended in Okmulgee County. This second storm later went on to produce considerable hail and wind damage in the city of Okmulgee. Many other thunderstorms developed during the evening in central Oklahoma, fanned by upper level winds in excess of 100 knots. These storms moved into northeast Oklahoma, causing additional severe weather late in the evening that gradually spread eastward to the Arkansas state line. After midnight, the storms congealed and became a slow-moving line of thunderstorms that sat over nearly the same area of northeast Oklahoma through the overnight hours. The severe threat gradually diminished through the night, and flooding became the main problem. For more information on the flooding, see the separate event entry for the flooding. By late on the afternoon of October 5, the slow-moving line had moved into southeast Oklahoma and flared up during the heat of the afternoon, causing a few additional severe weather reports in the form of strong winds.

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Event Record Details

Event: Flash Flood	State: Oklahoma
Begin Date: 05 Oct 1998, 06:30:00 AM CST	Map of Counties
Begin Location: Countywide	County: Muskogee
End Date: 05 Oct 1998, 10:00:00 AM CST	
End Location: Countywide	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 30.0K	
Damage:	
Crop Damage: \$ 0.0	

Description:
In Muskogee, some streets were closed by flooding. A low-water crossing one mile southwest of Council Hill was covered by water. In Fort Gibson, there was some street flooding. In Haskell, residents of the Haskell Manor Nursing Home were evacuated due to flooding. Two buildings in downtown Haskell were flooded. Several rural roads were closed, and one rural bridge was washed out. US Hwy 64 at the Ash Creek bridge southeast of Haskell was closed by rising waters. At least one woman had to be rescued from a van after she drove the vehicle into high running water on Duncan Road. Summary of flooding events for October 4-5 1998: What started out as Oklahoma's worst-ever October tornado outbreak turned into a widespread and serious flash flood event when a steady train of supercell thunderstorms moving across northeast Oklahoma on the evening of October 4 congealed into a slow-moving line of thunderstorms early on the morning of October 5. This line of thunderstorms remained nearly stationary roughly along I-44 through the overnight and pre-dawn hours of October 5, dumping widespread rainfall amounts of 5 to 7 inches along the I-44 corridor. Some of the heaviest rain fell in the Tulsa metro area. After sunrise, the line of thunderstorms started a slow southeastward drift, causing lesser but still heavy rain amounts of 3 to 5 inches across

southeast and eastcentral Oklahoma. By the time the line of thunderstorms reached the southeast corner of Oklahoma on the evening of October 5, rainfall rates were not as intense. Thus, the only county in eastern Oklahoma not to see flash flooding was Choctaw County, where rainfall amounts were generally 2.5 inches or less. Several mainstem rivers rose above flood stage from the heavy rains, including the Bird Creek at Sperry and Owasso, the Verdigris River at Lenapah, the Neosho River at Commerce and Quapaw, the Poteau River at Panama, the Deep Fork River at Beggs, the Black Bear Creek at Pawnee, and the Polecat Creek at Sapulpa and Jenks. Some rainfall totals from October 4-5 include (in inches): Page_2SE...7.11, Skiatook_4NW...6.69, Jenks Riverside Airport (RVS)...6.45, Pryor_4N...6.21, Bristow_4SE...6.08, Welty_1SSE...6.00, Lyons_2N...5.93, NWS Tulsa (NE Tulsa)...5.88, Wynona_2S...5.59, Jay_4N...5.46, Tulsa International Airport (TUL)...5.30, Kansas_1ESE...5.25, Miami_2NE...5.17, Wilburton_9ENE...5.06, Tahlequah_2NNE...5.03, Centralia_7E (Vinita mesonet)...4.46, Clayton...4.04, Copan_2ENE...4.02, Webbers Falls...3.90, Talihina_4SE...3.68, McCurtain_1SE...3.60, Marble City_4N...3.33, Wister_3ENE...3.32, Checotah...3.13, Muskogee...2.97, and Okemah...2.79.

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Event Record Details

Event: Tstm Wind	State: Oklahoma
Begin Date: 09 Nov 1998, 11:13:00 PM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
Begin 35°45'N / 95°22'W	
LAT/LON:	
End Date: 09 Nov 1998, 11:18:00 PM CST	
End Location: Muskogee	
End LAT/LON: 35°45'N / 95°22'W	
Magnitude: 52	
Fatalities: 1	
Injuries: 0	
Property \$ 5.0K	
Damage:	
Crop Damage: \$ 0.0	

Description:
A 42-year old woman was killed around 1218 AM CDT when several large tree branches fell through the windshield of a pickup truck in which she was a passenger, stabbing the woman through the neck. This unfortunate incident occurred at the corner of 23rd and Arline Streets. Several minutes earlier at 1213 AM CDT, emergency managers reported wind gusts to 60 mph in Muskogee. F42VE Summary of events for November 9-10 1998: A solid north-south line of severe thunderstorms raced across all of eastern Oklahoma on the evening of November 9. This was in association with the cold front trailing from a powerful "Colorado low" moving across the central plains. This narrow line of storms produced strong to severe wind gusts along its entire length, with gusts estimated as high as 80 mph. There were also reports of hail as large as quarters. Late in the evening, a portion of the line in southeast Oklahoma bowed out once it passed McAlester, producing more severe wind damage and funnel clouds from eastern Pittsburg County to the Arkansas state line. A tornado touched

down southwest of Fort Smith between Arkoma and Pocola, travelling northeast for 5 miles across the southern part of Fort Smith.

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Event Record Details

Event: Flood	State: Oklahoma
Begin Date: 10 Nov 1998, 12:00:00 AM CST	Map of Counties
Begin Location: Not Known	Forecast
End Date: 16 Nov 1998, 08:00:00 AM CST	Zones MUSKOGEE
End Location: Not Known	affected:
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
The Arkansas River at Muskogee rose above its flood stage of 28 feet on November 10, cresting at 28.2 feet on November 11 at 2 AM. After falling below flood stage at 7 AM on the 11th, the river again rose above flood stage at 5 PM on the 13th, cresting at 28.3 feet on November 14 at 3 PM.

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Event Record Details

Event: Flood	State: Oklahoma
Begin Date: 10 Nov 1998, 12:00:00 AM CST	Map of Counties
Begin Location: Not Known	Forecast
End Date: 16 Nov 1998, 08:00:00 AM CST	Zones MUSKOGEE
End Location: Not Known	affected:
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	


Description:
The Arkansas River at Muskogee rose above its flood stage of 28 feet on November 10, cresting at 28.2 feet on November 11 at 2 AM. After falling below flood stage at 7 AM on the 11th, the river again rose above flood stage at 5 PM on the 13th, cresting at 28.3 feet on November 14 at 3 PM.

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Event Record Details

Event: Flash Flood	State: Oklahoma
Begin Date: 06 Feb 1999, 04:30:00 PM CST	Map of Counties
Begin Location: North Portion	County: Muskogee
End Date: 06 Feb 1999, 06:00:00 PM CST	
End Location: North Portion	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
Several streets around Haskell and Muskogee were closed for a short time by high water. Summary of events for February 6 1999: Thunderstorms first fired up on the afternoon of February 6 along a stationary boundary stretching roughly from Okemah to West Siloam Springs. By late afternoon, one thunderstorm traveled northeast along this boundary, producing torrential rains causing rainfall totals to exceed two inches and causing sporadic flooding along the way. By the time this storm reached Adair County, it produced some marginally severe wind gusts. Further south, a line of thunderstorms moved across southeast Oklahoma during the late afternoon and early evening. Increasing upper level winds associated with an approaching upper level low caused this line of storms to produce locally damaging winds on its track across southeast Oklahoma. By late evening, the center of the upper level low, which was located northwest of Tulsa, caused isolated thunderstorms to form over Pawnee and Osage Counties. One of these storms produced a report of marginally severe hail.


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Event Record Details

Event: Tstm Wind	State: Oklahoma
Begin Date: 08 Mar 1999, 06:30:00 PM CST	Map of Counties
Begin Location: 4 Miles East North East of Muskogee	County: Muskogee
Begin 35°46'N / 95°18'W	
LAT/LON:	
End Date: 08 Mar 1999, 06:30:00 PM CST	
End Location: 4 Miles East North East of Muskogee	
End LAT/LON: 35°46'N / 95°18'W	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 30.0K	
Damage:	
Crop Damage: \$ 0.0	

Description:
The steel frame of a warehouse under construction was destroyed near the Port of Muskogee. Summary of events for March 8 1999: A band of moderate to heavy rain moved across the area during the morning of March 8 in association with a warm front out in advance of a low pressure center. The rain brought localized nuisance flooding. Once the morning rains passed, warmer air moved into eastern Oklahoma during the afternoon, and an upper level low with lots of cold air aloft moved into the area. Thunderstorms then erupted late in the afternoon along an eastward moving dryline/cold front. Some of these thunderstorms displayed characteristics of low-precipitation supercells which then produced damaging tornadoes, most notably in McIntosh County and at Broken Arrow in Tulsa County. The Broken Arrow tornado occurred miles behind any radar-indicated thunderstorm activity and was possibly the result of a cold-air funnel under the cold upper low which reached the ground.

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Event Record Details

Event: Flash Flood	State: Oklahoma
Begin Date: 22 Apr 1999, 06:45:00 PM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
End Date: 22 Apr 1999, 07:45:00 PM CST	
End Location: Muskogee	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
There was street flooding in Muskogee. Summary of events for April 22 1999: A cold front moved southeast out of Kansas into northeast Oklahoma on the afternoon of April 22. A broken line of thunderstorms formed along the front and quickly became severe as the front continued a steady southeast push. The front slowed down as it neared the I-40 corridor, causing some training thunderstorms and minor flash flooding. These thunderstorms contained the full spectrum of severe weather, from golfball-sized hail to damaging winds to several touchdowns of weak tornadoes.

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Event Record Details

Event: Flood	State: Oklahoma
Begin Date: 26 Apr 1999, 04:00:00 AM CST	Map of Counties
Begin Location: Not Known	Forecast
End Date: 27 Apr 1999, 12:00:00 PM CST	Zones MUSKOGEE
End Location: Not Known	affected:
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
The Arkansas River at Muskogee rose above its flood stage of 28 feet at 500 AM CDT on April 26. The river crested at 28.8 feet at 500 AM CDT on April 27 before falling back below flood stage at 100 PM CDT on April 27.

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Event Record Details

Event: Flood	State: Oklahoma
Begin Date: 04 May 1999, 01:00:00 PM CST	Map of Counties
Begin Location: Not Known	Forecast
End Date: 05 May 1999, 11:00:00 AM CST	Zones Muskogee, Wagoner
End Location: Not Known	affected:
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	


Description:
The Arkansas River at Muskogee rose above its flood stage of 28 feet at 200 PM CDT on May 4. The river crested at a level of 28.6 feet at 500 AM CDT on May 5 before falling back below flood stage at Noon CDT on May 5.

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Event Record Details

Event: Hail	State: Oklahoma
Begin Date: 11 May 1999, 07:35:00 PM CST	Map of Counties
Begin Location: 2 Miles East of Muskogee	County: Muskogee
Begin 35°45'N / 95°20'W	
LAT/LON:	
End Date: 11 May 1999, 07:35:00 PM CST	
End Location: 2 Miles East South East of Muskogee	
End LAT/LON: 35°45'N / 95°20'W	
Magnitude: 1.75 inches	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
Location: on the turnpike south of US Hwy 62
Summary of events for May 11 1999:
Numerous severe thunderstorms formed along a slow-moving north-south cold front across eastern Oklahoma on the afternoon and evening of May 11. A cap of warm air in the mid-levels of the atmosphere kept thunderstorm activity suppressed until the first storm formed in Rogers and Mayes County late in the afternoon. This was the largest storm of the day as it showed strong rotation and produced very large hail to the size of baseballs. Many other severe thunderstorms formed and increased in coverage through the evening. With the slow movement of the cold front, many thunderstorms moved over areas already saturated by earlier thunderstorms, leading to localized flash flooding. Several brief tornadoes also formed through the evening, with the largest concentration in the Arkansas River valley between Muskogee and Sallisaw.

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10/15/02

Event Record Details

Event: Flash Flood	State: Oklahoma
Begin Date: 12 May 1999, 02:05:00 AM CST	Map of Counties
Begin Location: East Portion	County: Muskogee
End Date: 12 May 1999, 03:00:00 AM CST	
End Location: East Portion	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 160.0K	
Damage:	
Crop Damage: \$ 0.0	

Description:
An estimated 6 inches of rain forced the closing of OK Hwy 10 between Muskogee and Braggs. A county commissioner estimated that 60 percent of the roads in the eastern part of the county were closed at one point. Water was about 7 to 8 feet deep on some roads. Three homes in Fort Gibson sustained damage when water came into the homes, which were located in the 300 block of South Avenue. Firefighters had to rescue a family whose minivan was washed into Cooper Creek. At least 7 or 8 other cars had to be pulled out of ditches after the flooding subsided. On 4 Mile Road near the Cherokee county line, the force of the water washed a 48-inch drainage pipe 100 yards down a creek and ripped a five-foot wide hole across the road. Water in the Carriage Estates Addition was deep enough to cover the roof of a car that had washed down the road. Summary of events for May 11 1999: Numerous severe thunderstorms formed along a slow-moving north-south cold front across eastern Oklahoma on the afternoon and evening of May 11. A cap of warm air in the mid-levels of the atmosphere kept thunderstorm activity suppressed until the first storm formed in Rogers and Mayes County late in the afternoon. This was the largest storm of the day as it showed strong rotation and produced very large hail to the size of baseballs. Many other severe

thunderstorms formed and increased in coverage through the evening. With the slow movement of the cold front, many thunderstorms moved over areas already saturated by earlier thunderstorms, leading to localized flash flooding. Several brief tornadoes also formed through the evening, with the largest concentration in the Arkansas River valley between Muskogee and Sallisaw.

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Event Record Details

Event: Tstm Wind	State: Oklahoma
Begin Date: 17 May 1999, 01:20:00 AM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
Begin 35°45'N / 95°22'W	
LAT/LON:	
End Date: 17 May 1999, 01:20:00 AM CST	
End Location: Muskogee	
End LAT/LON: 35°45'N / 95°22'W	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 100.0K	
Damage:	
Crop Damage: \$ 0.0	

Description:
Two businesses had their roofs blown off. Other buildings had shingles blown off their roofs, while there were numerous trees and tree limbs blown down. The majority of damaged homes were in the east side of town, though the west side had its share of tree damage. Summary of events for May 16-17 1999: A cluster of thunderstorms formed on the evening of May 16 over western Oklahoma. This cluster of storms started moving quickly east and formed into a large bow echo, a radar signature indicative of damaging winds. Indeed, damaging winds swept across nearly all of eastern Oklahoma late on the evening of May 16 and early on the morning of May 17. The apex of the bow, or the area of strongest winds, moved from near Okemah through Muskogee County and on to Westville. While there were numerous reports of wind damage, Muskogee County saw the most serious damage, including several injuries when winds toppled mobile homes. Marginally severe hail also accompanied this line of storms. After sunrise, another round of more widely scattered thunderstorms moved east out of

central Oklahoma and moved across the eastern third of the state. These storms produced more damaging winds and marginally severe hail. During the afternoon, an outflow boundary turned up stationary across southeast Oklahoma and was the focus for more thunderstorm development. The afternoon storms mainly produced marginally severe hail. In addition, the stationary movement of the outflow boundary allowed thunderstorm cells to train behind each other, leading to locally heavy rainfall.

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Event Record Details

Event: Urban/sml Stream Fld	State: Oklahoma
Begin Date: 22 May 1999, 07:00:00 PM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
End Date: 22 May 1999, 08:00:00 PM CST	
End Location: Muskogee	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 8.0K	
Damage:	
Crop Damage: \$ 0.0	

Description:
There was street flooding, mainly on the west side of Muskogee. The water level crept toward the doorsteps of some homes near Williams and 30th Streets, but the water receded just in time. A car became stranded in high water in the same vicinity. Summary of events for May 22 1999: A slow-moving cold front kicked off clusters of severe thunderstorms on the afternoon and evening of May 22. Most of the thunderstorms that formed moved very slowly at first, causing severe weather to last a bit longer at a given location than usual. The first thunderstorms of the day formed over northeast Oklahoma, producing hail as large as golfballs. The severe weather emphasis gradually shifted south, and the numero of wind reports increased during the evening as earlier storms in the Tulsa area gusted out and produced outflow boundaries that spread south.

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10/15/02

Event Record Details

Event: Flood	State: Oklahoma
Begin Date: 23 May 1999, 10:00:00 AM CST	Map of Counties
Begin Location: Not Known	Forecast
End Date: 24 May 1999, 12:00:00 PM CST	Zones Muskogee, Wagoner
End Location: Not Known	affected:
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
The Arkansas River at Muskogee rose above its flood stage of 28 feet at 1100 AM CDT on May 23. The river crested at a level of 28.8 feet at 1100 PM CDT before falling back below flood stage at 100 PM CDT on May 24.

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Event Record Details

Event: Tornado	State: Oklahoma
Begin Date: 01 Jun 1999, 05:16:00 PM CST	Map of Counties
Begin Location: 2 Miles West South West of Ft Gibson	County: Muskogee
Begin 35°47'N / 95°17'W	
LAT/LON:	
End Date: 01 Jun 1999, 05:21:00 PM CST	
End Location: 4 Miles South West of Ft Gibson	
End LAT/LON: 35°46'N / 95°18'W	
Length: 2 Miles	
Width: 100 Yards	
Magnitude: F1	
Fatalities: 0	
Injuries: 0	
Property \$ 2.0M	
Damage:	
Crop Damage: \$ 0.0	

Description:
An F1 tornado touched down near the Port of Muskogee and moved south for 2.25 miles, lifting just south of Three Forks Park. This tornado destroyed three structures belonging to one business, destroyed two business outbuildings at 3-Forks Park, caused minor damage to one business under construction, and affected eight single family dwellings. The most newsworthy result of this tornado was damage directly inflicted upon the OG&E electrical generation plant. The tornado damaged a coal conveyor belt and a cooling tower. The damage was enough to shut down two of the plant's four coal-powered generating units. At the Fansteel plant, six buildings were torn down by the tornado, causing up to \$1.5 million damage there. Summary of events for the afternoon and evening of June 1 1999: A cold front

moving in from the northwest moved into an extremely unstable air mass on the afternoon of June 1. Along the front, an isolated supercell thunderstorm developed around the Pryor/Locust Grove area and then moved in a slow and unusual south-southwest direction. This storm produced very large hail in addition to several strong tornadoes. This storm also produced eastern Oklahoma's first killer tornado in at least half of a decade.

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Event Record Details

Event: Urban/sml Stream Fld	State: Oklahoma
Begin Date: 07 Jun 1999, 06:30:00 PM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
End Date: 07 Jun 1999, 07:30:00 PM CST	
End Location: Muskogee	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 3.0K	
Damage:	
Crop Damage: \$ 0.0	

Description:
A woman in her car had to be rescued on Chandler Road when her car stalled out in high water. Summary of events for June 7 1999: A weak spin in the upper atmosphere, the remains of an old MCS, moved across northeast Oklahoma on the afternoon of June 7. With only weak wind fields present that day, these storms were pulse-like in nature and quickly became outflow-dominated. These storms mainly produced hail up to quarter-size and marginally severe winds in a widely scattered, random fashion around the area.

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Event Record Details

Event: Flash Flood	State: Oklahoma
Begin Date: 10 Jun 1999, 01:00:00 PM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
End Date: 10 Jun 1999, 02:00:00 PM CST	
End Location: Muskogee	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 10.0K	
Damage:	
Crop Damage: \$ 0.0	

Description:
About 3/4" of rain fell in a short time in Muskogee, causing water to quickly rise and seep into the Heritage Home Nursing Center on Denver Street. At least one car parked in front of the nursing center was flooded out. At least one street in Muskogee was temporarily closed by high water.

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Event Record Details

Event: Flood	State: Oklahoma
Begin Date: 24 Jun 1999, 12:00:00 AM CST	Map of Counties
Begin Location: Not Known	Forecast
End Date: 25 Jun 1999, 06:00:00 AM CST	Zones Muskogee, Wagoner
End Location: Not Known	affected:
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:

* The Arkansas River at Muskogee rose above its flood stage of 28 feet at 100 AM CDT on June 24. The river crested at a level of 28.3 feet at 500 AM CDT later that morning before falling back below flood stage at 700 AM CDT on June 25.

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Event Record Details

Event: Flood	State: Oklahoma
Begin Date: 01 Jul 1999, 12:00:00 AM CST	Map of Counties
Begin Location: Not Known	Forecast
End Date: 01 Jul 1999, 04:00:00 AM CST	Zones Muskogee, Wagoner
End Location: Not Known	affected:
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
The Arkansas River at Muskogee rose above its flood stage of 28 feet at 900 PM CDT on June 30. The river crested at a level of 28.1 feet at 100 AM CDT on July 1 before falling back below flood stage at 500 AM CDT later that same morning.

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Event Record Details

Event: Heavy Snow
Begin Date: 27 Jan 2000, 07:00:00 AM CST
Begin Location: Not Known
End Date: 27 Jan 2000, 07:00:00 PM CST
End Location: Not Known
Magnitude: 0
Fatalities: 0
Injuries: 0
Property \$ 0.0
Damage:
Crop Damage: \$ 0.0

State: Oklahoma
[Map of Counties](#)
Forecast Adair, Cherokee,
Zones Choctaw, Craig,
affected: Creek, Delaware,
Haskell, Latimer, Le
Flore, Mayes,
Mcintosh, Muskogee,
Nowata, Okfuskee,
Okmulgee, Osage,
Ottawa, Pawnee,
Pittsburg,
Pushmataha, Rogers,
Sequoyah, Tulsa,
Wagoner,
Washington

Description:
Heavy snow fell throughout Eastern Oklahoma on Thursday, January 27. Cold air settled into Eastern Oklahoma earlier in the week setting the stage for the snow event. The snow fell in association with an upper level system moving northeast into the plains out of the desert southwest. This upper system tapped gulf moisture which rode up over the dome of cold air. Light snow fell in advance of the upper level system on Wednesday generally resulting in less than an inch of accumulation due to the warm ground. The snow ended for a while Wednesday night. Heavy snow began to fall early Thursday morning and continued into Thursday afternoon. The snow became light early Thursday evening and ended around midnight. The following are some snowfall amounts for the event: Eufaula...17", Okmulgee...12", McAlester...10", Okemah...9", Pawnee...9", Hugo...9", Stigler...9", Poteau...9", Wagoner...9", Stilwell...9", Broken Arrow...8", Heavener...8", Antlers...8", Muskogee...8", Tahlequah...8", Checotah...8", Tulsa NWS...8", Wilburton...7", Bristow...7",

Sallisaw...7", Pryor...7", Tulsa International Airport...7", Claremore...7", Barnsdall...7", Sapulpa...6", Jay...6", Bartlesville...6", Pawhuska...6", Nowata...6", Spavinaw...5", Miami...5", Vinita...4" and Lenapah...4".

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Event Record Details

Event: Tstm Wind	State: Oklahoma
Begin Date: 19 Apr 2000, 11:32:00 PM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
Begin 35°45'N / 95°22'W	
LAT/LON:	
End Date: 19 Apr 2000, 11:32:00 PM CST	
End Location: Muskogee	
End LAT/LON: 35°45'N / 95°22'W	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 0.5K	
Damage:	
Crop Damage: \$ 0.0	

Description:
Thunderstorm winds blew down several trees.

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Event Record Details

Event: Tstm Wind	State: Oklahoma
Begin Date: 26 May 2000, 08:20:00 AM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
Begin 35°45'N / 95°22'W	
LAT/LON:	
End Date: 26 May 2000, 08:20:00 AM CST	
End Location: Muskogee	
End LAT/LON: 35°45'N / 95°22'W	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 1.0K	
Damage:	
Crop Damage: \$ 0.0	

Description:
Thunderstorm winds blew down several large tree limbs in Greenhill Cemetary. The winds also knocked down power lines resulting in a power outage for 3,000 customers.

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Event Record Details

Event: Flash Flood	State: Oklahoma
Begin Date: 21 Jun 2000, 09:18:00 AM CST	Map of Counties
Begin Location: Countywide	County: Muskogee
End Date: 21 Jun 2000, 12:30:00 PM CST	
End Location: Countywide	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 200.0K	
Damage:	
Crop Damage: \$ 0.0	

Description:
Up to 7 inches of rain fell in places across Muskogee county including 3.75 inches in the city of Muskogee. This rain caused numerous roads to be flooded including some city street in Muskogee and Highway 82 near Council Hill. The rain also caused Coody Creek in Muskogee to flood ten homes in The Meadows subdivision.

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Event Record Details

Event: Ice Storm	State: Oklahoma
Begin Date: 12 Dec 2000, 03:00:00 PM CST	Map of Counties
Begin Location: Not Known	Forecast Choctaw, Haskell,
End Date: 13 Dec 2000, 02:00:00 PM CST	Zones Latimer, Le Flore,
End Location: Not Known	affected: McIntosh, Muskogee,
Magnitude: 0	Pittsburg,
Fatalities: 0	Pushmataha,
Injuries: 0	Sequoyah
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
Summary of winter weather on December 12-13 2000. A powerful winter storm developed over the Southern Plains and produced a mixture of snow...sleet and freezing rain. The precipitation was mostly snow in parts of Northeast Oklahoma near and to the north of Interstate 44. A mixture of sleet, snow and some freezing rain fell between Interstate 44 and Interstate 40 in East Central Oklahoma. Across Southeast Oklahoma the precipitation was mainly sleet and freezing rain. The icing was significant enough in the far Southeast Oklahoma counties of Pushmataha and Choctaw that 5,000 customers of Choctaw Electric were without power on December 13. Some snow and sleet totals include: Big Cabin...16, Miami...13, Ketchum...13, Bartlesville...12, Nowata...12, Chelsea...12, Grove...12, Vera...11, Lenapah...11, Rose...11, Pawhuska...10, Claremore...10, Hominy...10, Owasso...9, Copan...9, Sapulpa...9, Skiatook...9, Catoosa...9, Tulsa...8.4, Hulbert...8, Pryor...8, Grainola...7, Bixby...7, Pawnee...7, Jenks...7, Broken Arrow...7, Tahlequah...6, Drumright...6, mazier...6, Stilwell...6, Bristow...5, Coweta...5, Glenpool...5, Henryetta...4, Wagoner...4, Okmulgee...5, Welty...3, Clayton...3, Wilburton...3, Haskell...3, Muskogee...3, Okemah...2, McAlester...2, Porter...2, Oktaha...2, Webbers Falls...2, Sallisaw...2, Poteau...2, Stigler...1 and Talihina...1 inches.

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Event Record Details

Event: Ice Storm
Begin Date: 25 Dec 2000, 07:00:00 AM CST
Begin Location: Not Known
End Date: 27 Dec 2000, 02:00:00 PM CST
End Location: Not Known
Magnitude: 0
Fatalities: 0
Injuries: 0
Property \$ 0.0
Damage:
Crop Damage: \$ 0.0

State: Oklahoma
[Map of Counties](#)
Forecast Adair, Cherokee,
Zones Choctaw, Craig,
affected: Creek, Delaware,
Haskell, Latimer, Le
Flore, Mayes,
Mcintosh, Muskogee,
Nowata, Okfuskee,
Okmulgee, Osage,
Ottawa, Pawnee,
Pittsburg,
Pushmataha, Rogers,
Sequoyah, Tulsa,
Wagoner,
Washington

Description:
Summary of winter weather events for December 25-27 2000. A slow moving winter storm moved across the State Christmas day bringing heavy freezing rain and dangerous ice accumulations. While all of Eastern Oklahoma received significant ice accumulations, East Central and Southeast Oklahoma were hardest hit. One to two inches of ice accumulation were common in these areas with locally higher amounts. Over 500 power poles were downed during the event and over 200,000 Oklahomans were without power. The heavy ice accumulations also left thousands without telephone and water service. Some locations in Southeast Oklahoma were without utility services for more than a week. Numerous shelters and feeding sites were established across Southeast Oklahoma to provide water, food and a warm place to sleep. Thousands of trees were damaged across Southeast Oklahoma including 7 State parks where damage was estimated at over 1 million dollars. Numerous reports of trees downed on vehicles and homes were reported across Southeast Oklahoma. Some of the

areas that experienced the most damage were in Pittsburg, Latimer and LeFlore counties. While damage estimates were not finalized as of late February, a preliminary total for the state was \$168.9 million.

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Event Record Details

Event: Tstm Wind	State: Oklahoma
Begin Date: 24 Feb 2001, 11:19:00 AM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
End Date: 24 Feb 2001, 11:19:00 AM CST	
End Location: Muskogee	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 0.5K	
Damage:	
Crop Damage: \$ 0.0	

Description:
Thunderstorm winds blew down power lines.

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Event Record Details

Event: Flash Flood	State: Oklahoma
Begin Date: 30 May 2001, 03:30:00 AM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
End Date: 30 May 2001, 10:00:00 AM CST	
End Location: Muskogee	
Magnitude: 0	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
Heavy thunderstorm rains caused many low lying roads in and around Muskogee to be flooded.

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Event Record Details

Event: Tstm Wind	State: Oklahoma
Begin Date: 07 Sep 2001, 09:15:00 PM CST	Map of Counties
Begin Location: 2 Miles North of Muskogee	County: Muskogee
End Date: 07 Sep 2001, 09:15:00 PM CST	
End Location: 2 Miles North of Muskogee	
Magnitude: 61	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
Thunderstorm winds estimated at 70 miles an hour blew down a billboard.

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Event Record Details

Event: Tstm Wind	State: Oklahoma
Begin Date: 09 Oct 2001, 04:19:00 PM CST	Map of Counties
Begin Location: Muskogee	County: Muskogee
End Date: 09 Oct 2001, 04:19:00 PM CST	
End Location: Muskogee	
Magnitude: 61	
Fatalities: 0	
Injuries: 0	
Property \$ 0.0	
Damage:	
Crop Damage: \$ 0.0	

Description:
Thunderstorm winds estimated at 70 miles an hour blew down a few trees.

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Event Record Details

Event: Heavy Snow
Begin Date: 02 Mar 2002, 02:00:00 AM CST
Begin Location: Not Known
End Date: 02 Mar 2002, 12:00:00 PM CST
End Location: Not Known
Magnitude: 0
Fatalities: 0
Injuries: 0
Property \$ 0.0
Damage:
Crop Damage: \$ 0.0

State: Oklahoma
[Map of Counties](#)
Forecast Adair, Cherokee,
Zones Craig, Creek,
affected: Delaware, Haskell,
Mayes, McIntosh,
Muskogee, Nowata,
Okfuskee, Okmulgee,
Osage, Ottawa,
Pittsburg, Rogers,
Tulsa, Wagoner,
Washington

Description:
An arctic cold front moved southeast across eastern Oklahoma during the night of the first and second of March. Meanwhile, an upper level system moved northeast out of the desert southwest. The result was a large area of precipitation. The precipitation began as rain and turned first to freezing rain and sleet and then to snow from northwest to southeast across the area during the early morning hours. The snow fell at a rate of up to 2 inches an hour at some places and was accompanied by lightning and thunder. The snow tapered off to flurries around noon. A few accumulations include: Pryor...9 inches, Vinita...9 inches, Miami...8 inches, Oologah...8 inches, Claremore...6 inches, Tulsa...6 inches, Wagoner...6 inches, Muskogee...6 inches, Bartlesville...5 inches, Okmulgee...5 inches, Stigler...4 inches, Tahlequah...4 inches and McAlester...4 inches.

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Appendix C

**Flora of the Muskogee Area
(U.S. Army Corps of Engineers, 1974 and 1976)**

COMMON NAME

SCIENTIFIC NAME

TREES

Boxelder	<u>Acer negundo</u>
Silver Maple	<u>A. saccharinum</u>
Sugar Maple	<u>A. Saccharum</u>
Red Maple	<u>A. rubrum</u>
River Birch	<u>Betula nigra</u>
Chittam Wood	<u>Burmelia lanuginosa</u>
Blue Beech	<u>Carpinus caroliniana</u>
Bitternut Hickory	<u>Carya cordiformis</u>
Pecan	<u>C. illinoensis</u>
Shagbark Hickory	<u>C. ovata</u>
Black Hickory	<u>C. texana</u>
Sugarberry	<u>Celtis laevigata</u>
Common Western Hackberry	<u>C. occidentalis</u>
Eastern Redbud	<u>Cercis canadensis</u>
Roughleaf Dogwood	<u>Cornus drummondii</u>
Flowering Dogwood	<u>Cornus florida</u>
Hawthorn	<u>Crataegus</u>
Common Persimmon	<u>Diospyros virginiana</u>
White Ash	<u>Fraxinus americana</u>
Green Ash	<u>F. pennsylvanica</u>
Common Honeylocust	<u>Gleditsia triacanthos</u>
Kentucky Coffee Tree	<u>Gymnocladus dioica</u>
Black Walnut	<u>Juglans nigra</u>
Eastern Redcedar	<u>Juniperus virginiana</u>
Sweetgum	<u>Liquidambar styraciflua</u>
Osage Orange	<u>Maclura pomifera</u>
White Mulberry	<u>Morus alba</u>
Red Mulberry	<u>Morus rubra</u>
Sycamore	<u>Platanus occidentalis</u>
Cottonwood	<u>Populus deltoides</u>
Northern Red Oak	<u>Quercus borealis</u>
Overcup Oak	<u>Q. lyrata</u>
Blackjack Oak	<u>Q. marilandica</u>
Bur Oak	<u>Q. macrocarpa</u>
Water Oak	<u>Q. nigra</u>
Western Red Oak	<u>Q. rubra</u>
Shumard's Oak	<u>Q. shumardii</u>
Post Oak	<u>Q. stellata</u>
Black Locust	<u>Robinia pseudoacacia</u>
Sandbur Willow	<u>Salix interior</u>
Black Willow	<u>Salix nigra</u>
Western Soapberry	<u>Sapindus drummondi</u>
Winged Elm	<u>Ulmus alata</u>
American Elm	<u>U. americana</u>
Cedar Elm	<u>U. crassifolia</u>
Slippery Elm	<u>U. rubra</u>
Blackhaw Viburnum	<u>Viburnum rufidulum</u>

COMMON NAME

SCIENTIFIC NAME

SHRUBS AND WOODY VINES

Peppervine	<u>Ampelopsis arborea</u>
Giant Cane	<u>Arundinaria gigantea</u>
River Cane	<u>A. spp.</u>
Rattan Vine	<u>Berchemia scandens</u>
Trumpet creeper	<u>Campsis radicans</u>
Buttonbush	<u>Cephalanthus occidentalis</u>
Marine Vine	<u>Cissus incisa</u>
Hazelnut	<u>Corylus americana</u>
Eastern Wahoo	<u>Euonymus atropurpureus</u>
Texas Forestier	<u>Forestiera acuminata</u>
Spice-bush	<u>Lindera benzoin</u>
Moonseed	<u>Meisnerium canadense</u>
Virginia Creeper	<u>Parthenocissus quinquefolia</u>
Flameleaf (Shining) Sumac	<u>Rhus copallina</u>
Smooth Sumac	<u>R. glabra</u>
Poison Ivy	<u>R. radicans</u>
Poison sumac	<u>R. vernix</u>
Wild Rose	<u>Rosa spp.</u>
Blackberry, Thimbleberry, Dewberry	<u>Robus spp.</u>
American Elder	<u>Sambucus canadensis</u>
Greenbrier	<u>Smilax spp.</u>
Buckbush	<u>Symphoricarpos orbiculatus</u>
Summer Grape	<u>Vitis aestivalis</u>
Riverbank Grape	<u>Vitis vulpina</u>
Prickly Pear	<u>Xanthoxylum americanum</u>

HERBS

Indian Mallow	<u>Abutilon theophrasti</u>
Copperleaf	<u>Acalypha gracilens</u>
Pigweed	<u>Amaranthus retroflexus</u>
Common Ragweed	<u>Ambrosia artemesiifolia</u>
Giant Ragweed	<u>A. trifida</u>
Purple Ammannia	<u>Ammannia coccinea</u>
Big Bluestem	<u>Andropogon gerardi</u>
Little Bluestem	<u>A. scoparius</u>
Broomsedge Bluestem	<u>A. virginicus</u>
Arkansas Dozedaisy	<u>Aphanostephus skirrobasis</u>
Milkweed	<u>Asclepias spp.</u>
Smallspike False Nettle	<u>Boehmeria cylindrica</u>
Cheatgrass	<u>Bromus tectorum</u>
Frank's Sedge	<u>Carex frankii</u>
Hop Sedge	<u>C. lupulina</u>
Sedges	<u>C. spp.</u>
Sandbur	<u>Cenchrus pauciflorus</u>
American Starthistle	<u>Centaurea americana</u>
Texas Chervil	<u>Chaerophyllum texanum</u>
Broadleaf Spanglegrass	<u>Chasmanthium latifolium</u>
Broadleaf Goosefoot	<u>Chenopodium leptophyllum</u>

COMMON NAME

SCIENTIFIC NAME

Water Hemlock	<u>Cicuta maculata</u>
Stout Woodreed	<u>Cinna grundinacea</u>
Horseweed	<u>Conyza canadensis</u>
Plains Coreopsis	<u>Coreopsis tinctoria</u>
Wooly Croton	<u>Croton capitatus</u>
Tropic croton	<u>C. glandulosus</u>
One Seed Croton	<u>C. monanthogynus</u>
Stinking Gourd	<u>Cucurbita foetidissima</u>
Bermuda Grass	<u>Cynodon dactylon</u>
Redroot Flat Sedge	<u>Cyperus erythrorhizos</u>
- - -	<u>C. artistatus</u>
Chufa	<u>C. esculentus</u>
Slender Flat Sedge	<u>C. filiculmis</u>
Globe Flat Sedge	<u>C. ovularis</u>
False Nutgrass	<u>C. strigosus</u>
Illinois Bundleflower	<u>Desmanthus illinoensis</u>
- - -	<u>Dicliptera bractiata</u>
Crabgrass	<u>Digitaria sanguinalis</u>
Poorjo	<u>Diodia teres</u>
Barnyard Grass	<u>Echinochloa crusgalli</u>
Yerba de tayo	<u>Eclipta alba</u>
Blunt Spikesedge	<u>Eleocharis obtusa</u>
Goosegrass	<u>Eleusine indica</u>
Virginia Wildrye	<u>Elymus virginicus</u>
Lacegrass	<u>Eragrostis capillaris</u>
Stinkgrass	<u>E. cilianensis</u>
Creeping Lovegrass	<u>E. reptans</u>
Joe-pye Weed	<u>Eupatorium purpureum</u>
White Snakeroot	<u>E. rugosum</u>
Late Eupatorium	<u>E. serotinum</u>
- - -	<u>Eriocaulon kornickianum</u>
Ridgeseed Euphorbia	(one specimen collected in 1927, common elsewhere)
Snow-on-the-Mountain	<u>Euphorbia glyptosperma</u>
Spotted Euphorbia	<u>E. marginata</u>
- - -	<u>E. nutans</u>
Warty Euphorbia	<u>E. petaloidea</u>
Mat Euphorbia	<u>E. spathulata</u>
Slender Fimbry	<u>E. serpens</u>
Umbrellagrass	<u>Fimbristylis autumnalis</u>
Downy Milkpea	<u>Fuirena simplex</u>
Small Flower Gaura	<u>Galactia volubis</u>
Sunflower	<u>Gaura parviflora</u>
Prairie Sunflower	<u>Helianthus annuus</u>
India Heliotrope	<u>H. petiolaris</u>
Pasture Heliotrope	<u>Heliotropium indicum</u>
	<u>H. tenellum</u>

COMMON NAME	SCIENTIFIC NAME
Little Barley	<u>Hordeum pusillum</u>
Whorled Pennywort	<u>Hydrocotyle verticillata</u>
Dwarf St. John's Wort	<u>Hypericum mutilum</u>
Flatleaf Rush	<u>Juncus crassifolius</u>
Slimpod Rush	<u>J. diffusissimus</u>
Inland Rush	<u>J. interior</u>
Grassleaf Rush	<u>J. marginatus</u>
Poverty Rush	<u>J. tenuis</u>
Torrey Rush	<u>J. torreyi</u>
Water Primrose	<u>Jussianeia decurrens</u>
Plains Kuhnia	<u>Kuhnia eupatorioides</u>
Prickly Lettuce	<u>Lactuca scariola</u>
Whitegrass	<u>Leersia virginica</u>
Wild Peppergrass	<u>Lepidium densiflorum</u>
Bearded Spangletop	<u>Leptochloa fascicularis</u>
Arkansas Dogshade	<u>Limnoscium pinnatum</u>
Oldfield Toadflax	<u>Linaria canadensis</u>
Seedbox	<u>Ludwigia alternifolia</u>
False Loosestrife	<u>L. glandulosa</u>
False Loosestrife	<u>L. palustris</u>
Bugleweed	<u>Lycopus americanus</u>
Winged Lythrum	<u>Lythrum lanceolatum</u>
White Sweetclover	<u>Melilotus alba</u>
Yellow Sweetclover	<u>M. officinalis</u>
Climbing Hempweed	<u>Mikania scandens</u>
Monkey Flower	<u>Mimulus alatus</u>
Carpetweed	<u>Mollugo verticillata</u>
Four-Point Evening Primrose	<u>Oenothera rhombipetala</u>
Common Switchgrass	<u>Panicum capillare</u>
Fall Panicum	<u>P. dichotomiflorum</u>
Gaping Panicum	<u>P. hians</u>
Wooly Panicum	<u>P. lanuginosum</u>
Redtop Panicum	<u>P. rigidulum</u>
Roundseed Panicum	<u>P. sphaerocarpon</u>
Switchgrass	<u>P. virgatum</u>
Ragweed Parthenium	<u>Parthenium hysterophorus</u>
Canary Grass	<u>Phalaris caroliniana</u>
Purple Pluchea	<u>Pluchea purpurascens</u>
Pokeweed	<u>Phytolacca americana</u>
Prostrate Knotweed	<u>Polygonum paviculare</u>
Bushy Knotweed	<u>P. ramossissimum</u>
Slender Mountainmint	<u>Pycnanthemum tenuifolium</u>
Toothcup	<u>Rotala ramosior</u>
Black-eyed Susan	<u>Rudbeckia hirta</u>
Limestone Ruellia	<u>Ruellia strepens</u>
Curly Dock	<u>Rumex crispus</u>
Dock	<u>Rumex spp.</u>

COMMON NAME	SCIENTIFIC NAME
Plains Sabatia	<u>Sabatia campestris</u>
American Bulrush	<u>Scirpus americanus</u>
Bulrush	<u>Scirpus</u> spp.
Rusty Bulrush	<u>S. lineatus</u>
Green Bristlegrass	<u>Setaria viridis</u>
Compass Plant	<u>Silphium laciniatum</u>
Roseweed	<u>Solanum carolinense</u>
Carolina Horsesnail	<u>S. elaeagnifolium</u>
Silverleaf Nightshade	<u>S. nigrum</u>
Black Nightshade	<u>S. rostratum</u>
Bulbalek	<u>Solidago</u> spp.
Goldenrod	<u>Sorghastrum nutans</u>
Indiangrass	<u>Sorghum halepense</u>
Johnsongrass	<u>Sporobolus</u> spp.
Dropseed	<u>Taraxacum</u> spp.
Dandelion	<u>Teucrium canadense</u>
Germander	<u>Torilis japonica</u>
Hedge Parsley	<u>Trifolium agrarium</u>
Hopclover	<u>Trifolium</u> spp.
Clover	<u>Verbena</u> spp.
Verbena	<u>Verbesina virginica</u>
Frostweed	<u>Vernonia altissima</u>
Ironweed	<u>Viola</u> spp.
Violets	<u>Xanthium strumarium</u>
Cocklebur	<u>Tridens flavus</u>
Purple Top	

Appendix D

**Oklahoma's Vertebrate Species – Known or
Likely to Occur in Muskogee County**

Oklahoma's Vertebrate Species - Known or Likely to Occur in Muskogee County

<u>Common Name</u>	<u>Scientific Name</u>
Mammals	
Opossum	<i>Didelphis marsupialis</i>
Elliot's Short-tailed Shrew	<i>Blarina hylophaga</i>
Least Shrew	<i>Cryptotis parva</i>
Eastern Mole	<i>Scalopus aquaticus</i>
Keen's Myotis	<i>Myotis keenii</i>
Silver-haired Bat	<i>Lasionycteris noctivagans</i>
Eastern Pipistrel	<i>Pipistrellus subflavus</i>
Big Brown Bat	<i>Eptesicus fuscus</i>
Red Bat	<i>Lasiurus borealis</i>
Hoary Bat	<i>Lasiurus cinereus</i>
Evening Bat	<i>Nycticeius humeralis</i>
Nine-banded Armadillo	<i>Dasypus novemcinctus</i>
Swamp Rabbit	<i>Sylvilagus aquaticus</i>
Eastern Cottontail	<i>Sylvilagus floridanus</i>
Eastern Chipmunk	<i>Tamias striatus</i>
Thirteen-lined Ground Squirrel	<i>Citellus tridecemlineatus</i>
Fox Squirrel	<i>Sciurus niger</i>
Gray Squirrel	<i>Sciurus carolinensis</i>
Southern Flying Squirrel	<i>Glaucomys volans saturatus</i>
Plains Pocket Gopher	<i>Geomys bursarius</i>
Hispid Pocket Mouse	<i>Chaetodipus hispidus</i>
Marsh Rice Rat	<i>Oryzomys palustris</i>
Fulvous Harvest Mouse	<i>Reithrodontomys fulvescens</i>
Eastern Harvest Mouse	<i>Reithrodontomys humulis</i>
Plains Harvest Mouse	<i>Reithrodontomys montanus</i>
Texas Mouse	<i>Peromyscus attwateri</i>
White-footed Mouse	<i>Peromyscus leucopus</i>
Deer Mouse	<i>Peromyscus maniculatus</i>
Hispid Cotton Rat	<i>Sigmodon hispidus</i>
Eastern Woodrat	<i>Neotoma floridana</i>
Prairie Vole	<i>Microtus ochrogaster</i>
Woodland Vole	<i>Microtus pinetorum</i>
Muskrat	<i>Ondatra zibethicus</i>
Beaver	<i>Castor canadensis</i>
Coyote	<i>Canis latrans</i>
Red Fox	<i>Vulpes rufus</i>
Gray Fox	<i>Urocyon cinereoargenteus</i>
Raccoon	<i>Procyon lotor</i>
Mink	<i>Mustela vison</i>
Long-tailed Weasel	<i>Mustela frenata</i>
Striped Skunk	<i>Mephitis mephitis</i>
Eastern Spotted Skunk	<i>Spilogale putorius</i>
River Otter	<i>Lutra canadensis</i>
Bobcat	<i>Lynx rufus</i>
White-tailed Deer	<i>Odocoileus virginianus</i>

Amphibians

Central Newt
Mudpuppy
Marbled Salamander
Tiger Salamander
Smallmouth Salamander
Dark-sided Salamander
Cave Salamander
Many-ribbed Salamander
Western Slimy Salamander
Dwarf American Toad
Woodhouse's Toad
Hunter's Spadefoot Toad
Eastern Narrowmouth Toad
Cope's Gray Treefrog
Gray Treefrog
Blanchard's Cricket Frog
Upland (Western) Chorus Frog
Spotted Chorus Frog
Spring Peeper
Strecker's Chorus Frog
Crawfish Frog
Southern Leopard Frog
Green Frog
Bullfrog

Notophthalmus viridescens louisianensis

Necturus maculosus
Ambystoma opacum
Ambystoma tigrinum
Ambystoma texanum
Eurycea longicauda
Eurycea lucifuga
Eurycea multiplicata
Plethodon albagula
Bufo americanus charlesmithi
Bufo Woodhousii
Scaphiopus holbrookii hurterii
Gastrophryne carolinensis
Hyla chrysoscelis
Hyla versicolor
Acris crepitans blanchardi
Psuedacris triseriata
Psuedacris clarkii
Psuedacris crucifer
Psuedacris streckeri
Rana areolata
Rana utricularia
Rana clamitans
Rana catesbeiana

Reptiles

Alligator Snapping Turtle
Common Snapping Turtle
Common Musk Turtle (Stinkpot)
Mississippi Mud Turtle
Mississippi Map Turtle
Ouachita Map Turtle
Missouri River Cooter
Red-eared Slider
Chicken Turtle
Three-toed Box Turtle
Ornate Box Turtle
Smooth Softshell Turtle
Spiny Softshell Turtle
Collared Lizard
Fence Lizard
Six-lined Racerunner
Ground Skink
Southern Coal Skink
Five-lined Skink
Broadhead Skink
Southern Prairie Skink
Slender Glass Lizard
Eastern Hognose Snake
Western Worm Snake
Ringneck Snake

Macrolemys temminckii
Chelydra serpentina
Sternotherus odoratus
Kinosternon subrubrum hippocrepis
Graptemys kohnii
Graptemys psuedogeographica ouachitensis
Pseudemys concinna
Trachemys scripta elegans
Deirochelys reticularia
Terrapene carolina
Terrapene ornata
Apalone mutica
Apalone spiniferus
Crotaphytus collaris
Sceloporus undulatus
Cnemidophorus sexlineatus
Scincella lateralis
Eumeces anthracinus
Eumeces fasciatus
Eumeces laticeps
Eumeces septentrionalis
Ophisaurus attenuatus
Heterodon platyrinos
Carphophis amoenus
Diadophis punctatus

Flathead Snake
 Ground Snake
 Rough Green Snake
 Coachwhip
 Yellowbelly Racer
 Great Plains Rat Snake
 Black Rat Snake
 Prairie Kingsnake
 Speckled Kingsnake
 Red Milk Snake
 Bullsake
 Scarlet Snake
 Brown Snake
 Redbelly Snake
 Rough Earth Snake
 Western Earth Snake
 Lined Snake
 Western Ribbon Snake
 Red-sided Garter Snake
 Graham's Crayfish Snake
 Diamondback Water Snake
 Plain-bellied Water Snake
 Midland Water Snake
 Cottonmouth
 Copperhead
 Pygmy Rattlesnake
 Timber Rattlesnake

Tantilla gracilis
Sonora semiannulata
Opheodrys aestivus
Masticophis flagellum
Coluber constrictor
Elaphe guttata
Elaphe obsoleta
Lampropeltis calligaster
Lampropeltis getulus holbrooki
Lampropeltis triangulum
Pituophis melanoleucus sayi
Cemophora coccinea
Storeria dekayi
Storeria occipitomaculata
Virginia striatula
Virginia valeriae
Tropidoclonion lineatum
Thamnophis proximus
Thamnophis sirtalis
Regina grahamii
Nerodia rhombifera
Nerodia erythrogaster
Nerodia sipedon
Agkistrodon piscivorus
Agkistrodon contortrix
Sistrurus miliarius
Crotalus horridus

Birds

Common Loon
 Pied-billed Grebe
 Horned Grebe
 Eared Grebe
 American White Pelican
 Double-crested Cormorant
 American Bittern
 Least Bittern
 Great Blue Heron
 Great Egret
 Snowy Egret
 Little Blue Heron
 Cattle Egret
 Green Heron
 Black-crowned Night Heron
 Yellow-crowned Night Heron
 White-faced ibis
 Black Vulture
 Turkey Vulture
 Tundra Swan
 Greater White-fronted Goose
 Snow Goose
 Ross' Goose

Gavia immer
Podilymbus podiceps
Colymbus auritus
Podiceps nigricollis
Pelecanus erythrorhynchos
Phalacrocorax auritus
Botaurus lentiginosus
Ixobrychus exilis
Ardea herodias
Casmerodius albus
Leucophoyx thula
Egretta caerulea
Bubulcus ibis
Butorides virescens
Nycticorax nycticorax hoactli
Nyctanassa violacea
Plegadis Chihi
Coragyps atratus
Cathartes aura
Cygnus columbianus
Anser albifrons
Chen hyperborea
Chen rossii

Canada Goose
 Wood Duck
 Green-winged Teal
 Mallard
 Northern Pintail
 Blue-winged Teal
 Northern Shoveler
 Gadwall
 American Widgeon
 Canvasback
 Redhead
 Ring-necked Duck
 Lesser Scaup
 Common Goldeneye
 Bufflehead
 Hooded Merganser
 Common Merganser
 Ruddy Duck
 Osprey
 Mississippi Kite
 Bald Eagle
 Northern Harrier
 Sharp-shinned Hawk
 Cooper's Hawk
 Red-shouldered Hawk
 Broad-winged Hawk
 Red-tailed Hawk
 American Kestrel
 Merlin
 Peregrine Falcon
 Wild Turkey
 Northern Bobwhite
 Sandhill Crane
 King Rail
 Virginia Rail
 Sora
 Yellow Rail
 Common Moorhen
 American Coot
 Black-bellied Plover
 American Golden Plover
 Semipalmated Plover
 Piping Plover
 Killdeer
 American Avocet
 Greater Yellowlegs
 Lesser Yellowlegs
 Solitary Sandpiper
 Willet
 Spotted Sandpiper
 Upland Sandpiper
 Marbled Godwit

Branta canadensis
Aix sponsa
Anas carolinensis
Anas platyrhynchos
Anas acuta
Anas discors
Anas clypeata
Anas strepera
Anas americana
Aythya valisineria
Aythya americana
Aythya collaris
Aythya affinis
Bucephala clangula americana
Bucephala albeola
Lophodytes cucullatus
Mergus merganser americana
Oxyura jamaicensis
Pandion haliaetus carolinensis
Ictinia mississippiensis
Haliaeetus leucoccephalus
Circus cyaneus
Accipiter striatus velox
Accipiter cooperii
Buteo lineatus
Buteo platypterus
Buteo jamaicensis
Falco sparverius
Falco columbarius
Falco peregrinus
Meleagris gallopavo
Colinus virginianus
Grus canadensis
Rallus elegans
Rallus limicola limicola
Porzana carolina
Coturnicops noveboracensis
Gallinula chloropus
Fulica americana
Pluvialis squatarola
Pluvialis dominica
Charadrius semipalmatus
Charadrius melodus
Charadrius vociferus
Recurvirostra americana
Tringa melanoleuca
Tringa flavipes
Tringa solitaria
Catoptrophorus semipalmatus
Actitis macularia
Bartramia longicauda
Limosa fidoa

Ruddy Turnstone
 Sanderling
 Semipalmated Sandpiper
 Western Sandpiper
 Least Sandpiper
 White-rumped Sandpiper
 Baird's Sandpiper
 Perctoral Sandpiper
 Dunlin
 Stilt Sandpiper
 Buff-breasted Sandpiper
 Long-billed Dowitcher
 Wilson's Phalarope
 Common Snipe
 Woodcock
 Franklin's Gull
 Bonaparte's Gull
 Ring-billed Gull
 Herring Gull
 Caspian Tern
 Common Tern
 Forster's Tern
 Least Tern
 Black Tern
 Mourning Dove
 Yellow-billed Cuckoo
 Greater Roadrunner
 Barn Owl
 Eastern Screech-Owl
 Great Horned Owl
 Barred Owl
 Short-eared Owl
 Common Nighthawk
 Chuck-will's-Widow
 Chimney Swift
 Ruby-throated Hummingbird
 Belted Kingfisher
 Red-headed Woodpecker
 Red-bellied Woodpecker
 Yellow-bellied Sapsucker
 Downy Woodpecker
 Hairy Woodpecker
 Northern Flicker
 Pileated Woodpecker
 Eastern Wood-Pewee
 Yellow-bellied Flycatcher
 Acadian Flycatcher
 Alder Flycatcher
 Willow Flycatcher
 Least Flycatcher
 Eastern Phoebe
 Great Crested Flycatcher

Arenaria interpres
Calidris alba
Calidris pusilla
Calidris mauri
Calidris minutilla
Calidris fuscicollis
Calidris bairdii
Calidris melanotos
Calidris alpina
Calidris himantopus
Tryngites subruficollis
Limnodromus scolopaceus
Phalaropus tricolor
Gallinago gallinago
Philohela minor
Larus pipixcan
Larus philadelphia
Larus delawarensis
Larus argentatus
Sterna caspia
Sterna hirundo
Sterna forsteri
Sterna antillarum
Chlidonias niger
Zenaidura macroura
Coccyzus americanus
Geococcyx californianus
Tyto alba pratincola
Otus asio
Bubo virginianus
Strix varia
Asio flammeus
Chordeiles minor
Caprimulgus carolinensis
Chaetura pelagica
Archilochus colubris
Ceryle alcyon
Melanerpes erythrocephalus
Melanerpes carolinus
Sphyrapicus varius
Picoides pubescens
Picoides villosus
Colaptes auratus
Dryocopus pileatus
Contopus virens
Epidonax flaviventris
Epidonax virescens
Epidonax alnorum
Epidonax traillii
Epidonax minimus
Sayornis phoebe
Myiarchus crinitus

Western Kingbird
 Eastern Kingbird
 Scissor-tailed Flycatcher
 Horned Lark
 Purple Martin
 Tree Swallow
 Northern Rough-winged Swallow
 Bank Swallow
 Cliff Swallow
 Barn Swallow
 Blue Jay
 American Crow
 Fish Crow
 Carolina Chickadee
 Tufted Titmouse
 Red-breasted Nuthatch
 White-breasted Nuthatch
 Brown Creeper
 Carolina Wren
 Bewick's Wren
 House Wren
 Winter Wren
 Sedge Wren
 Marsh Wren
 Golden-crowned Kinglet
 Ruby-crowned Kinglet
 Blue-gray Gnatcatcher
 Eastern Bluebird
 Gray-cheeked Thrush
 Swainson's Thrush
 Hermit Thrush
 Wood Thrush
 American Robin
 Gray Catbird
 Northern Mockingbird
 Brown Thrasher
 American Pipit
 Sprague's Pipit
 Loggerhead Shrike
 White-eyed Vireo
 Bell's Vireo
 Blue-headed Vireo
 Yellow-throated Vireo
 Warbling Vireo
 Red-eyed Vireo
 Blue-winged Warbler
 Tennessee Warbler
 Orange-crowned Warbler
 Nashville Warbler
 Northern Parula
 Yellow Warbler
 Chestnut-sided Warbler

Tyrannus verticalis
Tyrannus tyrannus
Tyrannus forficatus
Eremophila alpestris
Progne subis
Tachycineta bicolor
Stelgidopteryx serripennis
Riparia riparia
Hirundo pyrrhonota
Hirundo rustica erythrogaster
Cyanocitta cristata
Corvus brachyrhynchos
Corvus ossifragus
Poecile carolinensis
Parus bicolor
Sitta canadensis
Sitta carolinensis
Certhia americana
Thryothorus ludovicianus
Thryomanes bewickii
Troglodytes aedon
Troglodytes troglodytes
Cistothorus plantensis
Cistothorus palustris
Regulus satrapa
Regulus calendula
Poliophtila caerulea
Sialia sialis
Catharus minimus
Catharus ustulatus
Catharus guttatus
Hylocichla mustelina
Turdus migratorius
Dumetella carolinensis
Mimus polyglottus leucopterus
Toxostoma rufum
Anthus rubescens
Anthus spragueii
Lanius ludovicianus
Vireo griseus
Vireo bellii
Vireo solitarius
Vireo flavifrons
Vireo gilvus
Vireo olivaceus
Vermivora pinus
Vermivora peregrina
Vermivora celata
Vermivora ruficapilla
Parula americana
Dendroica petechia
Dendroica pensylvanica

Magnolia Warbler
 Yellow-rumped Warbler
 Black-throated Green Warbler
 Blackburnian Warbler
 Yellow-throated Warbler
 Pine Warbler
 Prairie Warbler
 Bay-breasted Warbler
 Blackpoll Warbler
 Cerulean Warbler
 Black-and-white Warbler
 American Redstart
 Prothonotary Warbler
 Ovenbird
 Northern Waterthrush
 Louisiana Waterthrush
 Kentucky Warbler
 Mourning Warbler
 Common Yellowthroat
 Hooded Warbler
 Canada Warbler
 Yellow-breasted Chat
 Summer Tanager
 Scarlet Tanager
 Northern Cardinal
 Rose-breasted Grosbeak
 Blue Grosbeak
 Indigo Bunting
 Painted Bunting
 Dickcissel
 Eastern Towhee
 Spotted Towhee
 Bachman's Sparrow
 American Tree Sparrow
 Chipping Sparrow
 Clay-colored Sparrow
 Field Sparrow
 Lark Sparrow
 Savannah Sparrow
 Grasshopper Sparrow
 Henslow's Sparrow
 LeConte's Sparrow
 Nelson's Sharp-tailed Sparrow
 Fox Sparrow
 Song Sparrow
 Lincoln's Sparrow
 Swamp Sparrow
 White-throated Sparrow
 White-crowned Sparrow
 Harris' Sparrow
 Dark-eyed Junco
 Lapland Longspur

Dendroica magnolia
Dendroica coronata
Dendroica virens
Dendroica fusca
Dendroica dominica
Dendroica pinus
Dendroica discolor
Dendroica castanea
Dendroica striata
Dendroica cerulea
Mniotilta varia
Setophaga ruticilla
Protonotaria citrea
Seiurus aurocapillus
Seiurus noveboracensis
Seiurus motacilla
Oporornis formosus
Oporornis philadelphia
Geothlypis trichas
Wilsonia citrina
Wilsonia canadensis
Icteria virens
Piranga rubra
Piranga olivacea
Cardinalis cardinalis
Pheucticus ludovicianus
Guiraca caerulea
Passerina cyanea
Passerina ciris
Spiza americana
Pipilo erythrophthalmus
Pipilo maculatus
Aimophila aestivalis
Spizella arborea
Spizella passerina
Spizella pallida
Spizella pusilla
Chondestes grammacus
Passerculus sandwichensis
Ammodramus savannarum
Ammodramus henslowii
Ammodramus leconteii
Ammodramus nelsoni
Passerella iliaca
Melospiza melodia
Melospiza lincolnii
Melospiza georgiana
Zonotrichia albicollis
Zonotrichia leucophrys
Zonotrichia querula
Junco hyemalis
Calcarius lapponicus

Smith's Longspur
Bobolink
Red-winged Blackbird
Eastern Meadowlark
Yellow-headed Blackbird
Rusty Blackbird
Great-tailed Grackle
Common Grackle
Brown-headed Cowbird
Orchard Oriole
Baltimore Oriole
Purple Finch
House Finch
Red Crossbill
Pine Siskin
American Goldfinch

Calcarius pictus
Dolichonyx oryzivorus
Agelaius phoeniceus
Sturnella magna
Xanthocephalus xanthocephalus
Euphagus carolinus
Quiscalus mexicanus
Quiscalus quiscula
Molothrus ater
Icterus spurius
Icterus galbula
Carpodacus purpureus
Carpodacus mexicanus
Loxia curvirostra
Carduelis pinus
Carduelis tristis

Appendix E

**Fish Species Expected to be Found in the
Fort Gibson Lake, Webbers Falls Reservoir, and the
Arkansas River
(U.S. Army Corps of Engineers, 1976)**

<u>Common Name</u>	<u>Scientific Name</u>
Blue Sucker	<u>Cycoreus alaryus</u>
Chestnut Lamprey	<u>Ichthyomyzon nassianus</u>
Southern Brook Lamprey	<u>Ichthyomyzon nassii</u>
Paddlefish	<u>Polydon spathula</u>
Shovelnosed Sturgeon	<u>Scaphirhynchus platyrhynchus</u>
Longnose Gar	<u>Lepisosteus osseus</u>
Shortnose Gar	<u>Lepisosteus platostomus</u>
Spotted Gar	<u>Lepisosteus oculatus</u>
Alligator Gar	<u>Lepisosteus spatula</u>
American Eel	<u>Anguilla rostrata</u>
Gizzard Shad	<u>Dorosoma cepedianum</u>
Threadfin Shad	<u>Dorosoma petenense</u>
Goldeye	<u>Hiodon alosoides</u>
Rainbow Trout	<u>Salmo gairdneri</u>
Largemouth Buffalo	<u>Ictiobus cyprinellus</u>
Smallmouth Buffalo	<u>Ictiobus bubalus</u>
River Carpsucker	<u>Carpoides carpio</u>
Quillback	<u>Carpoides cyprinus</u>
Northern Hogsucker	<u>Hypentelium nigricans</u>
Spotted Sucker	<u>Minytrema melanops</u>
Black Redhorse	<u>Moxostoma dybowskii</u>
Golden Redhorse	<u>Moxostoma erythrum</u>
River Redhorse	<u>Moxostoma carinatum</u>
Carp	<u>Cyprinus carpio</u>
Hornyhead Chub	<u>Hybopsis biguttata</u>
Silver Chub	<u>Hybopsis storeriana</u>
Big-eye Chub	<u>Hybopsis amblops</u>
Streamline Chub	<u>Hybopsis dissimilis</u>
Southern Redbelly Dace	<u>Chrosomus erythrocaster</u>
Brindled Madtom	<u>Schilbeodes niurus</u>
Mississippi Silversides	<u>Menidia audens</u>
Blackstriped Topminnow	<u>Fundulus notatus</u>
Blackspotted Topminnow	<u>Fundulus olivaceus</u>
Mosquitofish	<u>Gambusia affinis</u>
Spotted Bass	<u>Micropterus punctulatus</u>
Largemouth Bass	<u>Micropterus salmoides</u>
Warmouth	<u>Chaenobryttus gulosus</u>
Green Sunfish	<u>Lepomis cyanellus</u>
Bluegill	<u>Lepomis macrochirus</u>

Crangespotted Sunfish
 White Crappie
 Brook Silversides
 Drum
 White Bass
 Striped Bass
 Black Crappie
 Blackspot Shiner
 Golden Shiner
 Emerald Shiner
 Plains Shiner
 Rosyface Shiner
 Common Shiner
 Arkansas Striped Shiner
 Spotfin Shiner
 Bluntface Shiner
 Red Shiner
 Big-eye Shiner
 Mimic Shiner
 Ozark Shiner
 Slim Minnow
 Bluntnose Minnow
 Channel Catfish
 Blue Catfish
 Black Bullhead
 Yellow Bullhead
 Flathead Catfish
 Stonecat
 Banded Darter
 Redfin Darter
 Fantailed Darter
 Slough Darter
 Least Darter
 Longear Sunfish
 Redear Sunfish
 Rock Bass
 Sculpin
 Orangethroat Darter
 Arkansas River Darter
 Sauger
 Walleye
 Logperch
 Channel Darter
 Bluntnose Darter
 Blackside Darter
 Johnny Darter
 Speckled Darter

Lepomis humilis
Pomoxis annularis
Labidesthes sicculus
Aplodinotus grunniens
Roccus chrysops
Morone saxatilis
Pomoxis nigromaculatus
Notropis atrocaudalis
Notemigonus crysoleucas
Notropis atherinoides
Notropis percobromus
Notropis rubellus
Notropis cornutus
Notropis sirardi
Notropis spilopterus
Notropis camurus
Notropis lutrensis
Notropis boops
Notropis volucellus
Notropis ozarcus
Pimephales tenellus
Pimephales notatus
Ictalurus punctatus
Ictalurus furcatus
Ictalurus melas
Ictalurus natalis
Pylodictus olivaris
Notropis flavus
Etheostoma zonale
Etheostoma whipplei
Etheostoma flabellare
Etheostoma gracile
Etheostoma microperca
Lepomis microlophus
Ambloplites rupestris
Cottus ssp.
Etheostoma spectabile
Etheostoma cragini
Stizostedion canadense
Stizostedion vitreum
Percina caprodes
Percina copelandi
Etheostoma chlorosomum
Percina maculata
Etheostoma nigrum
Etheostoma stigmaeum